FINAL
HAZARDOUS WASTE POST-CLOSURE PERMIT

UNION CARBIDE CORPORATION
HAHNVILLE, LOUISIANA
LAD 041581422-PC-RN-1
AI#2083 / PER20030019

RECORD CENTER COPY

DEPARTMENT OF ENVIRONMENTAL QUALITY
KATHLEEN BABINEAUX BLANCO
GOVERNOR
MIKE D. McDANIEL, Ph.D.
SECRETARY

Ms. Sarah B. Thigpen
Responsible Care Leader
Union Carbide Corporation
P.O. Box 50
355 Hwy. 3142 Gate 28
Hahnville, LA 70057

RE: Union Carbide Corporation
LAD 041581422/AI#2083/PER20030019
Final Hazardous Waste Post-Closure Renewal Permit

Dear Ms. Thigpen:

Attached, is your copy of the Union Carbide Corporation, final hazardous waste post-closure renewal permit, LAD 041581422-PC-RN-1, which contains language pertaining to the post-closure care of the EPD Landfill at the Union Carbide Corporation, Taft Facility.

In accordance with Louisiana Revised Statute (La. R.S.) 30:2024, the Permittee may file with the Secretary a request for hearing no later than thirty (30) days after the notice of the action is served. Under La. R.S. 30:2050.21, any person aggrieved by a final permit action may appeal to the Nineteenth Judicial Court within thirty (30) days after the notice of the action has been given.

Please reference your Agency Interest Number (1254), EPA ID Number (LAD041581422), and Permit Activity Number (PER 20030019) on all future correspondence pertaining to this matter. If you have any questions, please contact Ms. Cara De Carlo of the Waste Services Section at (225) 219-3087 or Ms. Soumaya Ghosn of the Public Participation Group at (225) 219-3276.

Sincerely,

Chuck Carr Brown, Ph.D.
Assistant Secretary

cd

Attachment

ENVIRONMENTAL SERVICES
: PO BOX 4313, BATON ROUGE, LA 70821-4313
P:225-219-3181 F:225-219-3309
WWW.DEQ.LOUISIANA.GOV

PUBLIC PARTICIPATION

PUBLIC NOTICE
LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY (LDEQ)
UNION CARBIDE CORPORATION - TAFT FACILITY
FINAL HAZARDOUS WASTE POST-CLOSURE PERMIT RENEWAL

The LDEQ, Office of Environmental Services, has made the decision to issue the hazardous waste post-closure permit renewal for Union Carbide Corporation, P.O. Box 50, Hahnville, Louisiana for the Taft Facility-EPD Landfill. The **facility is located at 355 Hwy. 3142, Hahnville, St. Charles Parish.**

Under this hazardous waste post-closure renewal permit, Union Carbide Corporation will continue post-closure care of the EPD Landfill. Union Carbide Corporation no longer disposes of hazardous waste at its Taft Facility but is still responsible for the post-closure care of the EPD Landfill, groundwater monitoring, and implementing site-wide corrective action. The EPD Landfill received on-site generated hazardous waste. The EPD Landfill was closed in December 1989, and requires a permit to govern post-closure care of the unit.

The final permitting action and related documents are available for review and copying (all documents copied will be subject to a $0.25 charge per copied page) at the LDEQ, Public Records Center, Room 127, 602 North 5th Street, Baton Rouge, LA. Viewing hours are from 8:00 a.m. to 4:30 p.m., Monday through Friday (except holidays). **The available information can also be accessed electronically on the Electronic Document Management System (EDMS) on the DEQ public website at www.deq.louisiana.gov**.

Additional copies of this action may be reviewed at the St. Charles Parish Library, Hahnville Branch, 14996 River Rd. Suite D, Hahnville, LA and St. Charles Parish Library, East Regional Branch, 100 River Oaks Road, Destrehan, LA.

In accordance with Louisiana Revised Statutes (La R.S.) 30:2024, the Permittee may file with the secretary a request for a hearing no later than thirty (30) days after the notice of the action is served. Under La. R.S. 30:2050.21, any person aggrieved by a final permit action may appeal to the Nineteenth Judicial District Court within 30 days after the notice of the action has been given.

Previous notices have been published in the St. Charles Herald-Guide and The Advocate on July 26, 2007.

Inquiries or requests for additional information regarding this permit action, should be directed to Cara De Carlo, LDEQ, Waste Permits Division, P.O. Box 4313, Baton Rouge, LA 70821-4313, phone (225) 219-3087.

Persons wishing to be included on the LDEQ permit public notice mailing list or for other public participation related questions should contact the Public Participation Group in writing at LDEQ, P.O. Box 4313, Baton Rouge, LA 70821-4313, by email at deqmaillistrequest@la.gov or contact the LDEQ Customer Service Center at (225) 219-LDEQ (219-5337).

Permit public notices including electronic access to the issued permit and associated information can be viewed at the LDEQ permits public notice webpage at www.deq.louisiana.gov/apps/pubNotice/default.asp and general information related to the public participation in permitting activities can be viewed at www.deq.louisiana.gov/portal/tabid/2198/Default.aspx

Alternatively, individuals may elect to receive the permit public notices via email by subscribing to the LDEQ permits public notice List Server at www.doa.louisiana.gov/oes/listservpage/ldeq_pn_listserv.htm

All correspondence should specify AI Number 2083, Permit Number LAD 041581422-PC-RN-1, and Activity Number PER20030019.

Publication date: September 27, 2007

DEPARTMENT OF ENVIRONMENTAL QUALITY

KATHLEEN BABINEAUX BLANCO
GOVERNOR

MIKE D. McDANIEL, Ph.D.
SECRETARY

July 19, 2007

Phone (985) 783-5000

Mr. Albert M. Laque, President
St. Charles Parish Council
15045 Highway 18
Hahnville, LA 70057

Re: Request for Public Comment
Union Carbide Corporation-Taft Facility
EPD Landfill
St. Charles Parish, Louisiana
AI 2083, LAD 041581422-PC-RN-1

Dear Mr. Laque:

Enclosed is a copy of the draft hazardous waste post closure permit renewal, application and request for public notice for the referenced facility. Please make these documents available for public review upon receipt.

We appreciate your assistance in our efforts to serve the public. If you have any questions, please call me at (225) 219-3280.

Sincerely,

Barbara Mason
Environmental Project Specialist
Public Participation Group

/bm

Enclosure

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: PO BOX 4313, BATON ROUGE, LA 70821-4313
P:225-219-3181 F:225-219-3309
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DEPARTMENT OF ENVIRONMENTAL QUALITY
KATHLEEN BABINEAUX BLANCO
GOVERNOR
MIKE D. McDANIEL, Ph.D.
SECRETARY

July 19, 2007

Ms. Laura Goodell, Branch Manager
St. Charles Parish Library-Hahnville Branch
14996 River Road, Ste. D
Hahnville, LA 70057

Re: Request for Public Comment
Union Carbide Corporation-Taft Facility
EPD Landfill
St. Charles Parish, Louisiana
AI 2083, LAD 041581422-PC-RN-1

Dear Ms. Goodell:

We request that the enclosed copy of the draft hazardous waste post closure permit renewal, application and the public notice for the referenced facility be made available for public review upon receipt. It is imperative that these documents are available for review at all times; therefore, it cannot be checked out at any time by anyone.

The Louisiana Department of Environmental Quality, Office of Environmental Services, (LDEQ-OES) Permits Division, will provide written notice to you requesting that the information be removed.

Please complete the attached verification by library form and mail to me at LDEQ-OES, Environmental Assistance Division, Post Office Box 4313, Baton Rouge, Louisiana 70821-4313, or fax it to (225) 219-3309.

We appreciate your assistance in our efforts to serve the public. If you have any questions, please call Ms. Mason at (225) 219-3280.

Sincerely,

Barbara Mason

Barbara Mason
Environmental Project Specialist
Public Participation Group

/bm

Enclosure

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DEPARTMENT OF ENVIRONMENTAL QUALITY

KATHLEEN BABINEAUX BLANCO
GOVERNOR

MIKE D. McDANIEL, Ph.D.
SECRETARY

July 19, 2007

Telephone (504) 736-7701

Mr. Blaise Guzzardo, Program Manager
Southeast Regional Office – New Orleans
201 Evans Road, Building 4, Suite 420
New Orleans, LA 70123-5230

Re: Request for Public Comment
Union Carbide Corporation-Taft Facility
EPD Landfill
St. Charles Parish, Louisiana
AI 2083, LAD 041581422-PC-RN-1

Dear Mr. Guzzardo:

We request that the enclosed copy of the draft hazardous waste post closure permit renewal, application and copy of the request for public notice for the referenced facility be made available for public review upon receipt. It is imperative that these documents are available for review at all times; therefore, it cannot be checked out at any time by anyone.

The Louisiana Department of Environmental Quality, Office of Environmental Services, Permits Division, will provide written notice to you requesting that the information be removed.

Please complete the attached verification form and mail to me at LDEQ-OES, Environmental Assistance Division, Post Office Box 4313, Baton Rouge, Louisiana 70821-4313, or fax it to (225) 219-3309.

We appreciate your assistance in our efforts to serve the public. If you have any questions, please call me at (225) 219-3280.

Sincerely,

Barbara Mason

Barbara Mason
Environmental Project Specialist
Public Participation Group

/bm
Enclosure

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DEPARTMENT OF ENVIRONMENTAL QUALITY
KATHLEEN BABINEAUX BLANCO
GOVERNOR
MIKE D. McDANIEL, Ph.D.
SECRETARY

July 19, 2007

Ms. Lauren Campo, Branch Manager
St. Charles Parish Library-East Regional Branch
100 River Oaks Road
Destrehan, LA 70047

Re: Request for Public Comment
Union Carbide Corporation-Taft Facility
EPD Landfill
St. Charles Parish, Louisiana
AI 2083, LAD 041581422-PC-RN-1

Dear Ms. Campo:

We request that the enclosed copy of the draft hazardous waste post closure permit renewal, application and the public notice for the referenced facility be made available for public review upon receipt. It is imperative that these documents are available for review at all times; therefore, it cannot be checked out at any time by anyone.

The Louisiana Department of Environmental Quality, Office of Environmental Services, (LDEQ-OES) Permits Division, will provide written notice to you requesting that the information be removed.

Please complete the attached verification by library form and mail to me at LDEQ-OES, Environmental Assistance Division, Post Office Box 4313, Baton Rouge, Louisiana 70821-4313, or fax it to (225) 219-3309.

We appreciate your assistance in our efforts to serve the public. If you have any questions, please call Ms. Mason at (225) 219-3280.

Sincerely,

Barbara Mason

Barbara Mason
Environmental Project Specialist
Public Participation Group

/bm

Enclosure

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DEPARTMENT OF ENVIRONMENTAL QUALITY
KATHLEEN BABINEAUX BLANCO
GOVERNOR
MIKE D. McDANIEL, Ph.D.
SECRETARY

July 19, 2007

Telephone: (214) 665-6669

Mr. Kishor Fruitwala, Ph.D., P.E.
U. S. EPA, Region VI
Chief, RCRA Facility Assessment (6PD-A)
1445 Ross Avenue
Dallas, Texas 75202

Re: Request for Public Comment
Union Carbide Corporation-Taft Facility
EPD Landfill
St. Charles Parish, Louisiana
AI 2083, LAD 041581422-PC-RN-1

Dear Mr. Fruitwala:

The Louisiana Department of Environmental Quality (LDEQ) is enclosing for your reference, a copy of the draft hazardous waste post-closure permit renewal, application and the legal notice schedule for publication in the St. Charles Herald-Guide and The Advocate on July 26, 2007.

Should you have any questions regarding the facility, additional permit information may be obtained from Ms. Cara DeCalos, LDEQ, Permits Division, P.O. Box 4313, Baton Rouge, LA 70821-4313, telephone (225) 219-3087.

Sincerely,

Barbara Mason

Barbara Mason
Environmental Project Specialist
Public Participation Group

/bm
Enclosures

ENVIRONMENTAL SERVICES
: PO BOX 4313, BATON ROUGE, LA 70821-4313
P:225-219-3181 F:225-219-3309
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SIGNATURE PAGE

FINAL PERMIT

LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY

POST-CLOSURE PERMIT FOR THE CLOSED EPD LANDFILL

PERMITTEE: Union Carbide Corporation

PERMIT NUMBER: LAD041581422-PC-RN-1
Agency Interest #2083/Activity # PER20030019

FACILITY LOCATION: 355 Hwy. 3142
HAHNVILLE, LOUISIANA, 70057

This permit is issued by the Louisiana Department of Environmental Quality (LDEQ) under the authority of the Louisiana Hazardous Waste Control Law R.S. 30:2171 et seq., and the regulations adopted thereunder and under the authority of the 1984 Hazardous and Solid Waste Amendments (HSWA) to the Resource Conservation and Recovery Act (RCRA) to Union Carbide Corporation, (hereafter called the Permittee), for the post-closure care of closed unit located at Hahnville, Louisiana, at latitude 29° 58' 53" and longitude 90° 26' 40."

For the purposes of this permit, the "Administrative Authority" shall be the Secretary of the Louisiana Department of Environmental Quality, or his/her designee.

The permittee must comply with all terms and conditions of this permit. This permit consists of the conditions contained herein and the applicable regulations contained in the Louisiana Administrative Code, Title 33, Part V, Subpart 1, (LAC 33:V.Subpart 1). Applicable regulations are those that are in effect on the effective date of issuance of this permit.

This permit is based on the assumption that the information provided to LDEQ by the Permittee is accurate. Further, this permit is based in part on the provisions of Sections 206, 212, and 224 of the HSWA of 1984, which modify Section 3004 and 3005 of RCRA. In particular, Section 206 requires corrective action for all releases of hazardous waste or constituents from any solid waste management unit at a treatment, storage or disposal facility seeking a permit, regardless of the time at which waste was placed in such unit.

Section 212 provides authority to review and modify the permit at any time. Any inaccuracies found in the submitted information may be grounds for the termination, modification, revocation, and reissuance of this permit (see LAC 33:V.323) and potential enforcement action. The Permittee must inform the LDEQ of any deviation from or changes in the information in the application that would affect the Permittee's ability to comply with the applicable regulations or permit conditions.

This permit shall be effective as of 10/31/2007, and shall remain in effect until 10/31/2017, unless revoked, reissued, modified or terminated in accordance with LAC 33:V.323 and 705 of the Louisiana Hazardous Waste Regulations. The Administrative Authority may issue any permit for a duration that is less than the maximum term of ten (10) years and the term shall not be extended beyond the maximum duration by modification in accordance with LAC 33:V.315.

Post-closure requirements of LAC 33:V. Chapter 35, Subchapter B must continue for at least thirty (30) years after the date of closure for those units listed in Condition IV of this permit. Expiration of this permit does not relieve the permittee of the responsibility to reapply for a permit for the remainder of the thirty (30) year post-closure care period.

Provisions of this permit may be appealed in writing pursuant to La. R.S. 30:2024(A) within thirty (30) days from receipt of the permit. Only those provisions specifically appealed will be suspended by a request for hearing, unless the Secretary elects to suspend other provisions as well. A request for hearing must be sent to the following:

Louisiana Department of Environmental Quality
Office of the Secretary
Attention: Hearings Clerk, Legal Services Division
Post Office Box 4302
Baton Rouge, Louisiana 70821-4302

Chuck Carr Brown, Ph.D. Assistant Secretary
Louisiana Department of Environmental Quality

9/18/07
Date

PART A APPLICATION

EPA ID NO: 0 4 1 5 8 1 4 2 2

OMB #: 2050-0034 Expires 11/30/2005

United States Environmental Protection Agency

HAZARDOUS WASTE PERMIT INFORMATION FORM

1. Facility Permit Contact (See instructions on page 23)	First Name: Rafael	MI: F.	Last Name: De Vega
	Phone Number: (985) 783-4294		Phone Number Extension:
2. Facility Permit Contact Mailing Address (See instructions on page 23)	Street or P.O. Box: same as site contact		
	City, Town, or Village:		
	State:		
	Country:		Zip Code:
3. Operator Mailing Address and Telephone Number (See instructions on page 23)	Street or P.O. Box: P.O. Box 50		
	City, Town, or Village: Hahnville		
	State: LA		
	Country: USA	Zip Code: 70057	Phone Number
4. Legal Owner Mailing Address and Telephone Number (See instructions on page 23)	Street or P.O. Box: P.O. Box 50		
	City, Town, or Village: Hahnville		
	State: LA		
	Country: USA	Zip Code: 70057	Phone Number
5. Facility Existence Date (See instructions on page 24)	Facility Existence Date (mm/dd/yyyy): January 1966		

6. Other Environmental Permits (See instructions on page 24)

A. Permit Type (Enter code)	B. Permit Number	C. Description
E	P-0222	Solid Waste Permit-West Primary Pre-Treatment Basin
E	P-0220	Solid Waste Permit- Aerated, Pre-Treatment, and Stabilization Basins
E	P-0219	Solid Waste Permit-Primary Solids Settling Basin
E	P-0221	Solid Waste Permit-Secondary Solids Settling Basin I
E	P-0231	Solid Waste Permit-Secondary Solids Settling Basin II

7. Nature of Business (Provide a brief description; see instructions on page 24)

The UCC St. Charles Operations is a highly diversified petrochemical production facility which produces, uses and manufactures primarily ethylene and ethylene derivatives. The facility's products are considered intermediate chemicals which are processed into consumer goods by manufacturing processes in other locations. □

EPA ID NO: 041581422

A. Permit Type	B. Permit Number												C. Description
E	P	-	0	0	4	9							Solid Waste Permit-Secondary Soils Settling Basin III
E	4	7	6	-	V	0							Air Permit-Oxide 1 Unit
E	1	9	1	2	-	V	0						Air Permit-Specialty Products Unit
E	3	7	3	-	V	0							Air Permit-Oxide 2 Unit
E	2	2	1	4	-	V	0						Air Permit-LP-6 Unit
E	4	7	7	-	V	0							Air Permit-Unit 5
E	2	3	4	3	-	V	0						Air Permit-Energy Systems Unit
E	2	2	5	4	-	V	0						Air Permit-Acrylics 2 Unit
E	2	4	4	6	-	V	0						Air Permit-Unit 8
E	2	8	1	4	-	V	0						Air Permit-MGE Unit
E	2	6	5	6	-	V	0						Air Permit-Site Logistics & HCD Olefin Distribution
E	2	4	2	1	-	V	0						Air Permit-Amines Plants
E	1	9	0	9	-	V	0						Air Permit-Polyglycol
E	2	2	5	7	-	V	2						Air Permit-TB1 & TB2 Units
E	5	1	3	-	V	0							Air Permit-Acrylics 1 Unit
E	2	3	5	0	-	V	3						Air Permit-LP-3 Unit
E	2	8	7	6	-	V	0						Air Permit-Unit 9
E	2	8	5	8	-	V	0						Air Permit-PXC Distribution Unit
E	2	1	0	4	-	V	1						Air Permit-Environmental Operations-EOB
E	2	4	2	2	-	V	1						Air Permit-Olefins 1 & 2
N	L	A	0	0	0	0	1	9	1				NPDES Water Discharge Permit
P	L	A	-	5	9	0							Cogeneration Plant
P	L	A	-	7	0	7							ES-New Boilers
P	L	A	-	5	8	3							Butanol 1
P	L	A	-	5	9	8							Olefins 1
E													MGE Unit Permit Renewal Application
E													Higher Glycols Permit Renewal Application
E													Acrylics Permit Renewal Application
E													Unit 8 Minor Modification Applciation

EPA ID NO: 0 4 1 5 8 1 4 2 2 — OMB #: 2050-0034 Expires 11/30/2005

Process Codes and Design Capacities (See instructions on page 24) - Enter Information in the Sections on Form Page 3.

A. PROCESS CODE - *Enter the code from the list of process codes in the table below that best describes each process to be used at the facility. Fifteen lines are provided for entering codes. If more lines are needed, attach a separate sheet of paper with the additional information. For "other" processes (i.e., D99, S99, T04 and X99), enter the process information in item 9 (including a description).*

B. PROCESS DESIGN CAPACITY- *For each code entered in Section A, enter the capacity of the process.*

1. AMOUNT - *Enter the amount. In a case where design capacity is not applicable (such as in a closure/post-closure or enforcement action) enter the total amount of waste for that process.*

2. UNIT OF MEASURE - *For each amount entered in Section B(1), enter the code in Section B(2) from the list of unit of measure codes below that describes the unit of measure used. Select only from the units of measure in this list.*

C. PROCESS TOTAL NUMBER OF UNITS - *Enter the total number of units for each corresponding process code.*

PROCESS CODE	PROCESS	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
	Disposal:	
D79	Underground Injection Well Disposal	Gallons; Liters; Gallons Per Day; or Liters Per Day
D80	Landfill	Acre-feet; Hectare-meter; Acres; Cubic Meters; Hectares; Cubic Yards
D81	Land Treatment	Acres or Hectares
D82	Ocean Disposal	Gallons Per Day or Liters Per Day
D83	Surface Impoundment Disposal	Gallons; Liters; Cubic Meters; or Cubic Yards
D99	Other Disposal	Any Unit of Measure in Code Table Below
	Storage:	
S01	Container	Gallons; Liters; Cubic Meters; or Cubic Yards
S02	Tank Storage	Gallons; Liters; Cubic Meters; or Cubic Yards
S[redacted]	Waste Pile	Cubic Yards or Cubic Meters
S[redacted]	Surface Impoundment Storage	Gallons; Liters; Cubic Meters; or Cubic Yards
S05	Drip Pad	Gallons; Liters; Acres; Cubic Meters; Hectares; or Cubic Yards
S06	Containment Building Storage	Cubic Yards or Cubic Meters
S99	Other Storage	Any Unit of Measure in Code Table Below
	Treatment:	
T01	Tank Treatment	Gallons Per Day; Liters Per Day
T02	Surface Impoundment Treatment	Gallons Per Day; Liters Per Day
T03	Incinerator	Short Tons Per Hour; Metric Tons Per Hour; Gallons Per Hour; Liters Per Hour; Btu Per Hour; Pounds Per Hour; Short Tons Per Day; Kilograms Per Hour; Gallons Per Day; Liters Per Day; Metric Tons Per Hour; or Million Btu Per Hour
T04	Other Treatment	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; Btu Per Hour; Gallons Per Day; Liters Per Hour; or Million Btu Per Hour
T80	Boiler	Gallons; Liters; Gallons Per Hour; Liters Per Hour; Btu Per Hour; or Million Btu Per Hour
	Treatment (continued):	
T81	Cement Kiln	For T81-T93: Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; Btu Per Hour; or Million Btu Per Hour
T82	Lime Kiln	
T83	Aggregate Kiln	
T84	Phosphate Kiln	
T85	Coke Oven	
T86	Blast Furnace	
T87	Smelting, Melting, or Refining Furnace	
T88	Titanium Dioxide Chloride Oxidation Reactor	
T89	Methane Reforming Furnace	
T90	Pulping Liquor Recovery Furnace	
T91	Combustion Device Used In The Recovery Of Sulfur Values From Spent Sulfuric Acid	
T92	Halogen Acid Furnaces	
T93	Other Industrial Furnaces Listed In 40 CFR §260.10	
T94	Containment Building - Treatment	Cubic Yards; Cubic Meters; Short Tons Per Hour; Gallons Per Hour; Liters Per Hour; Btu Per Hour; Pounds Per Hour; Short Tons Per Day; Kilograms Per Hour; Metric Tons Per Day; Gallons Per Day; Liters Per Day; Metric Tons Per Hour; or Million Btu Per Hour
	Miscellaneous (Subpart X):	
X01	Open Burning/Open Detonation	Any Unit of Measure in Code Table Below
X02	Mechanical Processing	Short Tons Per Hour; Metric Tons Per Hour; Short Tons Per Day; Metric Tons Per Day; Pounds Per Hour; Kilograms Per Hour; Gallons Per Hour; Liters Per Hour; or Gallons Per Day
X03	Thermal Unit	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; Btu Per Hour; or Million Btu Per Hour
X04	Geologic Repository	Cubic Yards; Cubic Meters; Acre-feet; Hectare-meter; Gallons; or Liters
X99	Other Subpart X	Any Unit of Measure Listed Below

UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE
Gallons	G	Short Tons Per Hour	D	Cubic Yards	Y
Gallons Per Hour	E	Metric Tons Per Hour	W	Cubic Meters	C
Gallons Per Day	U	Short Tons Per Day	N	Acres	B
L[redacted]	L	Metric Tons Per Day	S	Acre-feet	A
L[redacted] Hour	H	Pounds Per Hour	J	Hectares	Q
Liters Per Day	V	Kilograms Per Hour	R	Hectare-meter	F
		Million Btu Per Hour	X	Btu Per Hour	I

EPA ID NO: 0 4 1 5 8 1 4 2 2

OMB #: 2050-0034 Expires 11/30/2005

Process Codes and Design Capacities (Continued)

EXAMPLE FOR COMPLETING Item 8 (shown in line number X-1 below): A facility has a storage tank, which can hold 533.788 gallons.

Line Number		A. Process Code (From list above)	B. PROCESS DESIGN CAPACITY (1) Amount (Specify)	B. (2) Unit of Measure (Enter code)	C. Process Total Number of Units	For Official Use Only
X	1	S 0 2	5 3 3 . 7 8 8	G	0 0 1	
	1	D 8 0	7597.7	Y	001	
	2					
	3					
	4					
	5					
	6					
	7					
	8					
	9					
1	0					
1	1					
1	2					
1	3					
1	4					
1	5					

NOTE: If you need to list more than 15 process codes, attach an additional sheet(s) with the information in the same format as above. Number the lines sequentially, taking into account any lines that will be used for "other" processes (i.e., D99, S99, T04 and X99) in Item 9.

9. Other Processes *(See instructions on page 25 and follow instructions from Item 8 for D99, S99, T04 and X99 process codes)*

Line Number (Enter #s in sequence with Item 8)		A. Process Code (From list above)	B. PROCESS DESIGN CAPACITY (1) Amount (Specify)	B. (2) Unit of Measure (Enter code)	C. Process Total Number of Units	D. Description of Process
X	2	T 0 4	1 0 0 . 0 0 0	U	0 0 1	In-situ Vitrification

EPA ID NO: 0 4 1 5 8 1 4 2 2

OMB #: 2050-0034 Expires 11/30/2005

10. Description of Hazardous Wastes (See instructions on page 25) - Enter information in the Sections on Form Page 5.

A. EPA HAZARDOUS WASTE NUMBER - *Enter the four-digit number from 40 CFR, Part 261 Subpart D of each listed hazardous waste you will handle. For hazardous wastes which are not listed in 40 CFR, Part 261 Subpart D, enter the four-digit number(s) from 40 CFR Part 261, Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.*

B. ESTIMATED ANNUAL QUANTITY - *For each listed waste entered in Section A, estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in Section A, estimate the total annual quantity of all the non-listed waste(s) that will be handled which possess that characteristic or contaminant.*

C. UNIT OF MEASURE - *For each quantity entered in Section B, enter the unit of measure code. Units of measure which must be used and the appropriate codes are:*

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure, taking into account the appropriate density or specific gravity of the waste.

D. PROCESSES

1. PROCESS CODES:

For listed hazardous waste: For each listed hazardous waste entered in Section A, select the code(s) from the list of process codes contained in Items 8A and 9A on page 3 to indicate all the processes that will be used to store, treat, and/or dispose of all the listed hazardous wastes.

For non-listed hazardous waste: For each characteristic or toxic contaminant entered in Section A, select the code(s) from the list of process codes contained in Items 8A and 9A on page 3 to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed hazardous wastes that possess that characteristic or toxic contaminant.

NOTE: THREE SPACES ARE PROVIDED FOR ENTERING PROCESS CODES. IF MORE ARE NEEDED:

1. *Enter the first two as described above.*
2. *Enter "000" in the extreme right box of item 10.D(1).*
3. *Use additional sheet, enter line number from previous sheet, and enter additional code(s) in item 10.E.*

2. PROCESS DESCRIPTION: *If a code is not listed for a process that will be used, describe the process in Item 10.D(2) or in Item 10.E(2).*

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER - Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

1. *Select one of the EPA Hazardous Waste Numbers and enter it in Section A. On the same line complete Sections B, C and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.*
2. *In Section A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In Section D(2) on that line enter "Included with above" and make no other entries on that line.*
3. *Repeat step 2 for each EPA Hazardous Waste Number that can be used to describe the hazardous waste.*

EXAMPLE FOR COMPLETING Item 10 (shown in line numbers X-1, X-2, X-3, and X-4 below) - A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operations. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

Line Number		A. EPA Hazardous Waste No. (Enter code)				B. Estimated Annual Quantity of Waste	C. Unit of Measure (Enter code)	D. PROCESSES (1) PROCESS CODES (Enter code)									(2) PROCESS DESCRIPTION (If a code is not entered in D(1))
X	1	K			054	900	P	T	0	3	D	8	0				
X	2		D0		02	400	P	T	0	3	D	8	0				
		3D		001		100	P	T	0	3	D	8	0				
	4	D	0	0	2												Included With Above

EPA ID NO: 0 4 1 5 8 1 4 2 2

OMB #: 2050-0034 Expires 11/30/2005

10. Description of Hazardous Wastes (Continued. Use the Additional Sheet(s) as necessary; number pages as 5 a, etc.)

Line Number		A. EPA Hazardous Waste No. (Enter code)	B. Estimated Annual Quantity of Waste	C. Unit of Measure (Enter code)	D. PROCESSES (1) PROCESS CODES (Enter code)	D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))
	1	D 0 2 8	7597.7	Y	D 8 0	
	2	D 0 0 5				Included with above
	3	D 0 0 6				Included with above
	4	D 0 0 7				Included with above
	5	D 0 0 8				Included with above
	6	D 0 1 1				Included with above
	7					
	8					
	9					
1	0					
1	1					
1	2					
1	3					
1	4					
1	5					
1	6					
1	7					
1	8					
1	9					
2	0					
2	1					
2	2					
2	3					
2	4					
2	5					
2	6					
2	7					
2	8					
2	9					
3	0					
3	1					
3	2					
3	3					
3	4					
3	5					
3	6					
3	7					
3	8					
	9					

11. Map (See instructions on pages 25 and 26)
Attach to this application a topographic map, or other equivalent map, of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in this map area. See instructions for precise requirements.
12. Facility Drawing (See instructions on page 26)
All existing facilities must include a scale drawing of the facility (see instructions for more detail).
13. Photographs (See instructions on page 26)
All existing facilities must include photographs (aerial or ground-level) that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas (see instructions for more detail).

14. Comments (See instructions on page 26)

11-13. Refer to Figures in Part B Chapter 5 "Figures" for all maps, drawings, and aerials.

Title 33, Chapter 5:

515.A.6

Latitude of Facility Front Gate: 29 DG 58 MN 53 SEC
Longitude fo Facility Front Gate: 90 DG 26 MN 40 SEC

Facility Description:

The UCC St. Charles Operations is a highly diversified petrochemical production facility which produces, uses and manufactures primarily ethylene and ethylene derivatives. The facility's products are considered intermediate chemicals which are processed into consumer goods by manufacturing processes in other locations.

515.A.7

SIC Code: 2869 - Industrial Organic Chemicals

515.A.14--see part 6 above

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LIST OF ATTACHMENTS

BODY
OF PERMIT

HAZARDOUS WASTE POST-CLOSURE RENEWAL PERMIT

UNION CARBIDE CORPORATION – EPD LANDFILL
EPA ID# LAD 041581422
Agency Interest# 2083

St. Charles Parish
Hahnville, Louisiana
PER20030019
Permit Number LAD 041581422-PC-RN-1

I. PERMIT PREAMBLE

This permit is issued to Union Carbide Corporation, hereinafter referred to as the Permittee, by the Louisiana Department of Environmental Quality (LDEQ) under authority of the Louisiana Hazardous Waste Control Law, R.S. 30:2171 et seq., and the regulations adopted thereunder.

This permit is based on information submitted in the permit application, and all subsequent amendments, and on the applicant's certification that such information is accurate and that all facilities were or will be maintained and operated as specified in the application.

This permit is conditioned upon full compliance with all applicable provisions of the Louisiana Hazardous Waste Control Law, R.S. 30:2171 et. seq., and the regulations adopted thereunder.

GLOSSARY OF TERMS

For the purpose of this permit, terms used herein shall have the same meaning as those in LAC 33:V.Subpart 1 unless the context of use in this permit clearly indicates otherwise. Where terms are not otherwise defined, the meaning otherwise associated with such terms shall be as defined by a standard dictionary reference or the generally accepted scientific or industrial meaning of the term.

"Administrative Authority" means the Secretary of the Louisiana Department of Environmental Quality or his/her designee (including appropriate assistant secretary).

"Application" refers to the RCRA Part B Permit Application and subsequent amendments submitted by the Permittee for obtaining a permit.

"Area of Concern" (AOC) means any discernable unit or area which, in the opinion of the Administrative Authority, may have received solid or hazardous waste or waste containing hazardous constituents at any time. The Administrative Authority may require investigation of the unit to determine if it is a Solid Waste Management Unit (SWMU). If shown to be a SWMU by the investigation, the AOC must be reported by the Permittee as a newly-identified SWMU.

"Area of Investigation" (AOI) is a zone contiguous to and including impacted media defined vertically and horizontally by the presence of one or more constituents in concentrations exceeding the limiting SS, MO-1 RS, or MO-2 RS (depending on the option being implemented).

"Beneficial Resource" describes natural resources that are useful to human and ecological receptors. The state may establish statutes or regulations that identify certain environmental components, such as specific ground water or surface water sources, as a "Special Beneficial Resource," or "Designated Beneficial Resource." The beneficial resources then may be entitled to greater protection from contamination.

"Constituents of Concern" (COC) means the COPC's that pose a significant risk.

"Constituents of Potential Concern" (COPC) means chemicals from hazardous waste and hazardous waste constituents that are potentially site related and have data of quality for use in the Screen or a site-specific risk assessment. The facility should compile a list of COPC's for each release site based on existing sampling data, waste analysis reports, etc.

"Conceptual Site Model" (CSM) is part of the Data Quality Objective (DQO) process that presents a three-dimensional picture of site conditions at a discrete point in time that conveys what is known about the facility, releases, release mechanisms, contaminant fate and transport,

exposure pathways, potential receptors, and risks. The information for the CSM is documented into six profiles. The CSM evolves as data gaps in the profiles become more complete, and will be refined based upon results of site characterization data. The final CSM is documented in the Risk Management Plan (RMP).

"**CWA**" means Clean Water Act.

"**Corrective Action**" is an activity conducted to protect human health and the environment.

"**Dense Nonaqueous Phase Liquid (DNAPL)**" a dense liquid not dissolved in water, commonly referred to as "free product."

"**Department**" means the Louisiana Department of Environmental Quality (LDEQ).

"**EPA**" means the United States Environmental Protection Agency.

"**Facility**" means, for the purpose of conducting corrective action under LAC 33:V.3322, all the contiguous property under the control of the Permittee.

"**HSWA**" means the 1984 Hazardous and Solid Waste Amendments to RCRA.

"**Hazardous Constituent**" means any constituent identified in LAC 33:V.Chapter 31.Table 1, or any constituent identified in LAC 33:V.3325.Table 4.

"**LDEQ**" means the Louisiana Department of Environmental Quality.

"**Light Nonaqueous Phase Liquid (LNAPL)**" a light liquid not dissolved in water, commonly referred to as "free product."

"**Newly-discovered Release**" any release(s) of hazardous waste, including hazardous constituents, in which there is a statistically significant in crease over the background data for the media of concern, during the course of groundwater monitoring, field investigation, environmental auditing, or by other means.

"**Operating Record**" means written or electronic records of all maintenance, monitoring, inspection, calibration, or performance testing—or other data as may be required—to demonstrate compliance with this permit, document noncompliance with this permit, or document actions taken to remedy noncompliance with this permit. A minimum list of documents that must be included in the operating record are identified at LAC 33:V.1529.B.

"**Permittee**" means Olin Corporation, 960 I-10 West, Westlake, Louisiana 70602.

"**RCRA Permit**" means the full permit, with RCRA and HSWA portions.

"**RFA**" means RCRA Facility Assessment.

"**RFI**" means RCRA Facility Investigation.

"**Release**" means any spilling, leaking, pouring, emitting, emptying, discharging, injecting, pumping, escaping, leaching, dumping or disposing of hazardous wastes (including hazardous constituents) into the environment (including the abandonment or discarding of barrels, containers, and other closed receptacles containing hazardous wastes or hazardous constituents).

"**Solid Waste Management Unit**" (**SWMU**) means any discernable unit at which solid wastes have been placed at any time, irrespective of whether the unit was intended for the management of solid or hazardous waste. Such units include any area at a facility at which solid wastes have been routinely and systematically released.

"**Stabilization**" is an action taken for the purpose of controlling or abating threats to human health or the environment from releases or preventing or minimizing the further spread of contaminants while long-term remedies are pursued.

If, subsequent to the issuance of this permit, regulations are promulgated which redefine any of the above terms, the Administrative Authority may, at its discretion, apply the new definition to this permit.

All regulating citations are defined as being the regulations in effect on the date of issuance of this permit. New and/or amended regulations are not included as permit requirements until permit modification procedures as specified in Condition II.C of the permit and LAC 33:V.321 are completed.

II. GENERAL PERMIT CONDITIONS

II.A. DURATION OF PERMIT

This permit is effective as of the date indicated on the accompanying signature page and shall remain in effect for a maximum period of ten (10) years from the effective date, unless suspended, modified, revoked and reissued or terminated for just cause.

II.B. EFFECT OF PERMIT

This permit authorizes the Permittee to conduct post-closure care activities associated with the Interim Status Landfill in accordance with the conditions of this permit and LAC 33:V.2521.B. The Permittee is prohibited from any storage, treatment or disposal of hazardous waste not authorized by statute, regulation or this permit. Compliance with this permit, LAC 33:V.Subpart 1 and HSWA, constitutes compliance for purposes of enforcement, with Subtitle C of RCRA and Chapter 9 of the Louisiana Environmental Quality Act (Act). However, compliance with the terms of this permit does not constitute a defense to any order issued or any action brought under Condition 3013 or Condition 7003 of RCRA, or under Condition 106 (a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) {42 U.S.C. 9606 (a)}.

In accordance with LAC 33:V.307.B and C, issuance of this permit does not convey property rights of any sort or any exclusive privilege; nor does it authorize any injury to persons or property, any invasion of other private rights, or any infringement of State or local law or regulations.

II.C. PERMIT ACTIONS

Any inaccuracies found in the permit application may be cause for revocation or modification of this permit. The Permittee must inform the Administrative Authority of any deviation from, changes or inaccuracies in the information in the permit application.

The Administrative Authority may also suspend, modify, revoke and reissue, or terminate for cause when necessary to be protective of human health or the environment as specified in 40 CFR 270.41, 270.42, 270.43 or LAC 33:V.309.F, 311.A or 323. The Administrative Authority may modify the permit when the standards or regulations on which the permit was based have been changed by promulgation of amended standards or regulations or by judicial decision after the permit was issued. The filing of a request for permit modification, revocation and reissuance, or termination or the notification of planned changes or anticipated noncompliance on the part of Permittee does not stay the applicability or enforceability of any permit condition.

II.D. SEVERABILITY

The conditions of this permit are severable and if any provision of this permit or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby.

II.E. DUTIES AND REQUIREMENTS

II.E.1. Duty to Comply

The Permittee shall comply with all conditions of this permit, except to the extent and for the duration such noncompliance may be authorized by an emergency permit. Any permit noncompliance, other than noncompliance authorized by an emergency permit (LAC 33:V.701), constitutes a violation of the LAC 33:V.Subpart 1 and the Environmental Quality Act and is grounds for enforcement action which may include permit termination, permit revocation and reissuance, permit modification, or denial of permit renewal application.

II.E.2. Duty to Reapply

If the Permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the Permittee must reapply for the permit as required by the LAC 33:V.303.N and 309.B. Notification shall be at least 180 calendar days before the permit expires.

II.E.3. Permit Extension

This permit and all conditions herein will remain in effect beyond the permit's expiration date until the Administrative Authority issues a final decision on the re-application, provided the Permittee has submitted a timely, complete new permit application as provided in LAC 33:V.309.B and 315.A.

II.E.4. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

II.E.5. Duty to Mitigate

The Permittee shall immediately take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this permit as required by LAC 33:V.309.D.

II.E.6. Proper Operation and Maintenance

The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related ancillary equipment) that are installed or used by the Permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operatorstaffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.

II.E.7. Duty to Provide Information

The Permittee shall furnish to the Administrative Authority, within a reasonable time, any information which the Administrative Authority may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The Permittee shall also furnish to the Administrative Authority upon request, copies of records required by this permit and in accordance with LAC 33:V.309.H.

II.E.8. Inspection and Entry

The Permittee shall allow the Administrative Authority or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

II.E.8.a. enter upon the Permittee's premises where a regulated activity is located or conducted, or where records must be maintained under the conditions of this permit;

II.E.8.b. have access to and copy, at reasonable times, any records that must be maintained under the conditions of this permit;

II.E.8.c. inspect, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operation regulated or required under this permit; and

II.E.8.d. sample or monitor, at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Administrative Authority any substances or parameters at any location.

II.E.9. Sample Monitoring and Records

II.E.9.a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. The method used to obtain a representative sample of the waste to be analyzed must be the appropriate method from Appendix I of 40 CFR Part 261. Laboratory methods must be those specified in Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, "SW-846", latest revision; Manual of Ground Water Quality Sampling Procedures, 1981, EPA-600/2-81-160, as revised; Procedures Manual for Ground Water Monitoring at Solid Waste Disposal Facilities, 1977, EPA-530/SW-611, as revised; or an equivalent method.

II.E.9.b. Records of monitoring information shall include:

II.E.9.b.(1) the date, exact place, and time of sampling or measurements;

II.E.9.b.(2) the name(s) and signature(s) of the individual(s) who performed the sampling or measurements;

II.E.9.b.(3) the date(s) analyses were performed;

II.E.9.b.(4) the name(s) and signature(s) of the individual(s) who performed the analyses;

II.E.9.b.(5) the analytical techniques or methods used;

II.E.9.b.(6) the results of such analyses; and

II.E.9.b.(7) associated quality assurance performance data.

II.E.9.c. Laboratory Quality Assurance/Quality Control

In order to ensure the accuracy, precision, and reliability of data generated for use, the Permittee shall submit a statement, certified as specified in LAC 33:V.513 and included in the annual report, indicating that:

II.E.9.c.(1) any commercial laboratory providing analytical results and test data to the LDEQ required by this permit is accredited by the Louisiana Environmental Laboratory Accreditation Program (LELAP) in accordance with LAC 33:I. Subpart 3, Chapter 45. Laboratory data generated by commercial laboratories not accredited under LELAP will not be accepted by the LDEQ.

LAC 33:I. Subpart 3 (Chapters 45-49) provides requirements for the accreditation program. Regulations and a list of labs that have applied for accreditation are available on the LDEQ website: http://www.deq.louisiana.gov/portal/tabid/2412/Default.aspx.

In accordance with LAC 33:I.4501, the requirements for LELAP accreditation applies whenever data is:

- submitted on behalf of a facility;
- required as part of a permit application;
- required by order of the LDEQ;
- required to be included in a monitoring report submitted to the LDEQ;
- required to be submitted by contract; or
- otherwise required by the LDEQ regulations.

This includes, but is not limited to data from RCRA Trial Burns, Risks Burns, Risk Assessments, MACT Comprehensive Performance Tests, and data used for continuing compliance demonstrations.

II.E.9.c.(2) If the Permittee decides to use their own in-house laboratory for test and analysis, the laboratory is not required to be accredited by LELAP. However, the laboratory must document and submit for approval, quality assurance/quality control procedures that are commensurate with requirements in LAC 33:I.Subpart 3 Laboratory Accreditation.

II.E.9.c.(3) For approval of equivalent testing or analytical methods, the Permittee may petition for a regulatory amendment under LAC 33:V.105.I and LAC 33:I.Chapter 9. In cases where an approved methodology for a parameter/analyte is not available or listed, a request to utilize an alternate method shall be submitted to the Administrative Authority for approval. Documentation must be submitted to the LDEQ that will verify that the results obtained from the alternate method are equal to or better than those obtained from EPA-accepted methods, as well as those deemed equivalent by the LDEQ.

II.E.10. Retention of Records

The Permittee shall maintain records from all ground water monitoring wells and associated groundwater surface elevations for the active life of the facility and for the post-closure care period.

The Permittee shall maintain records through the active life of the facility (including operation, closure and post-closure periods) as required by LAC 33:V.309.J and LAC 33:V.1529.A, B, and C. All records, including plans, must be furnished upon request and made available at all reasonable times as required by LAC 33:V.1529.C.

File copies shall be kept for LDEQ inspection for a period of not less than three years as required by LAC 33:V.317.B.

The Permittee shall, for the life of the permit, maintain records of all data used to complete the application for this permit and any supplemental information submitted under the Louisiana Hazardous Waste Control Law (LA. R.S. 30:2171 et seq.).

II.E.11. Notices of Planned Physical Facility Changes

The Permittee shall give notice to the Administrative Authority, as soon as possible, of any planned physical alterations or additions to the permitted facility, in accordance with LAC 33:V.309.L.1.

II.E.12. Physical Facility after Modification

For a closed unit being modified, the Permittee may not manage hazardous waste in the modified portion of the closed unit until:

II.E.12.a. the Permittee has submitted to and received approval from the Administrative Authority, by certified mail or hand delivery, a letter signed by the Permittee and an independent registered professional engineer stating that the unit is complete and has been constructed or modified in compliance with the permit; and

II.E.12.b. the Administrative Authority has inspected the modified unit following a request to make final inspection by the Permittee and finds it is in compliance with the conditions of the permit and all applicable Conditions of LAC 33:V.Subpart 1, and has issued an Order to Proceed. The Permittee may then commence treatment, storage, or disposal of hazardous waste.

II.E.13. Anticipated Noncompliance

The Permittee shall give advance notice to the Administrative Authority of any planned changes in the permitted facility or activity that may result in noncompliance with permit requirements.

II.E.14. Transfer of Permits

This permit may be transferred to a new owner or operator only if it is modified or revoked and reissued pursuant to LAC 33:V.309.L.4, 321.B, 321.C.4, and 1531.

II.E.15. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than fourteen (14) days following each schedule date (LAC 33:V.309.L.6).

II.E.16. Emergency Unauthorized Discharge Notification

In accordance with LAC 33:I.3915, in the event of an unauthorized discharge that results in an emergency condition (an emergency condition is any condition which could be reasonably expected to endanger the health and safety of the public, cause significant adverse impact to the land, water, or air environment, or cause severe damage to property), the Permittee shall notify the DPS (Department of Public Safety) 24-hour Louisiana Emergency Hazardous Materials Hotline by telephone at (225) 925-6595 immediately, but in no case later than one (1) hour after learning of the discharge. The DPS 24-hour Louisiana Emergency Hazardous Materials Hotline will subsequently notify the Department regarding the details of the discharge.

II.E.17. Non-Emergency Unauthorized Discharge Notification

In accordance with LAC 33:I.3917, in the event of an unauthorized discharge that exceeds a reportable quantity specified in LAC 33:I.Chapter 39.Subchapter E and/or results in contamination of the groundwaters of the state but does not result in an emergency condition, the Permittee shall promptly notify the Department within twenty-four (24) hours after learning of the discharge. Notification shall be made to the Office of Environmental Compliance, Emergency and Radiological Services Division, Single Point of Contact (SPOC) in accordance with the procedure and content requirements specified in LAC 33:I.3923.

II.E.18. Unauthorized Discharge to Groundwater Notification

In accordance with LAC 33:I.3919, in the event of an unauthorized discharge resulting in contamination of groundwaters of the state by moving in, into, within or on any saturated subsurface strata, the Permittee shall promptly notify the Department within twenty-four (24) hours after learning of the discharge. Notification shall be made to the Office of Environmental Compliance, Emergency and Radiological Services Division, SPOC in accordance with the procedure and content requirements specified in LAC 33:I.3923.

II.E.19. Written Notification Reports for Unauthorized Discharges

The Permittee shall submit written reports to the SPOC for any unauthorized discharges requiring notification under Conditions II.E.16, II.E.17 or II.E.18 of this permit. The written report shall be submitted in accordance with the procedure and content requirements specified in LAC 33:I.3925.

II.E.20. Noncompliance Reporting

The Permittee shall report orally within twenty-four (24) hours any noncompliance with the permit not reported under Condition II.E.16 or Condition II.E.17 of this permit that may endanger the human health or the environment. This report shall include at minimum the following information:

II.E.20.a. information concerning the release of any hazardous waste that may endanger public drinking water supplies; and

II.E.20.b. information concerning the release or discharge of any hazardous waste, or of a fire or explosion at the facility, that could threaten the environment or human health outside the facility. The description of the occurrence and its cause shall include:

II.E.20.b.(1) name, address, and telephone number of the owner or operator;

II.E.20.b.(2) name, address, and telephone number of the facility;

II.E.20.b.(3) date, time, and type of incident;

II.E.20.b.(4) name and quantity of materials involved;

II.E.20.b.(5) the extent of injuries, if any;

II.E.20.b.(6) an assessment of actual or potential hazard to the environment and human health outside the facility, where this is applicable; and

II.E.20.b.(7) estimated quantity and disposition of recovered material that resulted from the incident.

II.E.21. Follow-up Written Report of Noncompliance

The Permittee shall provide a written submission within five (5) days after the time the Permittee becomes aware of any noncompliance which may endanger human health or the environment not reported under Condition II.E.19 of this permit. The written submission shall contain a description of the noncompliance and its cause; the periods of noncompliance (including exact dates and times); whether the noncompliance has been corrected; and if not, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. If the Administrative Authority waives the requirement, then the Permittee submits a written report within fifteen (15) days after the time the Permittee becomes aware of the circumstances, as required by LAC 33:V.309.L.7.

II.E.22. Other Noncompliance

The Permittee shall report all other instances of noncompliance not otherwise required to be reported above, at the time required monitoring reports are submitted. The reports shall contain the information listed in Condition II.E.20 of this permit.

II.E.23. Other Information

Whenever the Permittee becomes aware that it failed to submit any relevant facts in the permit application, or that it submitted incorrect information in a permit application, or in any report to the Administrative Authority, the Permittee shall promptly submit such facts or information.

II.E.24. Signatory Requirement

All applications, reports or other information submitted to the Administrative Authority shall be signed and certified according to LAC 33:V.507, 509, 511, and 513.

II.E.25. Schedule of Compliance

II.E.25.a. Within sixty (60) days from the effective date of the permit, the Permittee must submit an updated post closure plan in accordance with LAC 33:V.3523 to the Administrative Authority for approval. The Permittee must meet all permit modification requirements in accordance with LAC 33:V.321, 322, and 323.

II.E.25.b. Within sixty (60) days from the effective date of the permit, the Permittee must resubmit the RCRA Hazardous Waste Information Form (Part A Permit Application). This resubmission must include all applicable and updated information as it pertains to the site.

II.E.26. Additional Operating Standards

(RESERVED)

II.E.27. Updated Documents to Be Submitted Prior to Operation

(RESERVED)

II.E.28. Documents to Be Maintained at Facility Site

II.E.28.a. Until post-closure is completed and certified by an independent registered professional engineer, the Permittee shall maintain at the facility the following documents and any amendments, revisions, and modifications to these documents. Any revision or changes shall be submitted with the annual report unless previously submitted.

II.E.28.a.(1) (RESERVED). A waste analysis plan is not required for the unit in post-closure under this permit.

II.E.28.a.(2) (RESERVED). A personal training plan is not required for the unit in post-closure under this permit.

II.E.28.a.(3) (RESERVED). A contingency plan is not required for the unit in post-closure under this permit.

II.E.28.a.(4) Arrangements with the local authorities are not required for the unit in post-closure under this permit. However, the Permittee must maintain documentation of the arrangements on-site for the plant site. If the Permittee does not plan to request the assistance of local authorities for plant emergencies, the Permittee must document the refusal in the operating record in accordance with LAC 33:V.1511.G.

II.E.28.a.(5) Post-Closure Plan submitted in accordance with LAC 33:V.3523 and approved by the Administrative Authority, as well as any post-closure care requirements that may be required initially or through permit modifications in accordance with LAC 33:V.3523 (see Attachment 1).

II.E.28.a.(6) Cost estimate for facility post-closure care submitted in accordance with LAC 33:V.3709 and approved by the Administrative Authority, as well as any post-closure cost estimate that may be required initially or through permit modifications in accordance with LAC 33:V.3709 (see Attachment 1).

II.E.28.a.(7) (RESERVED). The maintenance of the operating record is not required for the unit in post-closure under this permit.

II.E.28.a.(8) Inspection plan developed in accordance with LAC 33:V.517.G and 1509.B and approved by the Administrative Authority. (see Attachment 1)

II.E.28.a.(9) Security plan developed in accordance with LAC 33:V.1507 (see Attachment 1)

II.E.28.b. All proposed amendments, revisions and modifications to any plan or cost estimates required by this permit shall be submitted to the Administrative Authority for approval.

II.E.29. Annual Report

An annual report shall be submitted covering all hazardous waste units and their activities during the previous calendar year as required by LAC 33:V.1529.D.

II.E.30. Manifest

The Permittee shall report manifest discrepancies and unmanifested waste as required by LAC 33:V.309.L.8 and 9.

II.E.31. Emissions

Emissions from any hazardous waste facility shall not violate the Louisiana Air Quality Regulations. If air quality standards are exceeded, the site will follow air regulation protocol.

II.E.32. Water Discharges

Water discharges from any hazardous waste facility shall not violate the Louisiana Water Quality Regulations. If water standards are exceeded, the site will follow water quality regulation protocol.

II.E.33. Non-Listed Hazardous Waste Facilities

This permit is issued for those hazardous waste facilities listed in Condition IV (Permitted Closed Facilities). If the Permittee determines that an unpermitted hazardous waste facility exists, the Permittee must immediately notify the Administrative Authority in accordance with Condition II.E.23 of the General Permit Conditions.

II.E.34. Compliance with Land Disposal Restrictions

The Permittee shall comply with those land disposal restrictions set forth in LA. R.S. 30:2193, all regulations promulgated thereunder, and the HSWA portion of this permit (Conditions VII and VIII).

II.E.35. Establishing Permit Conditions

Permits for facilities with pre-existing groundwater contamination are subject to all limits, conditions, remediation and corrective action programs designated under LAC 33:V.311.D and LAC 33:V.3303.

II.E.36. Obligation for Corrective Action

Owners or operators of hazardous waste management units must have all necessary permits during the active life of the unit and for any period necessary to comply with the corrective action requirements in Condition VIII of this permit. The facility is obligated to complete facility-wide corrective action regardless of the operational status of the facility.

II.E.37. Attachments and Documents Incorporated by Reference

All attachments and documents required by this permit, including all plans and schedules, are incorporated, upon approval by the Administrative Authority, into this permit by reference and become an enforceable part of this permit. When applicable, the Permittee must modify the permit according to LAC 33:V.Chapter 3. Since required items are essential elements of this permit, failure to submit any of the required items or submission of inadequate or insufficient information may subject the Permittee to enforcement action, which may include fines, suspension, or revocation of the permit.

Any noncompliance with approved plans and schedules shall be termed noncompliance with this permit. Written requests for extension of due dates for submittals may be granted by the Administrative Authority.

If the Administrative Authority determines that actions beyond those provided for, or changes to what is stated herein, are warranted, the Administrative Authority may modify this permit according to procedures in LAC 33:V.321.

III. GENERAL POST-CLOSURE CONDITIONS

III.A. DESIGN AND OPERATION OF THE POST-CLOSURE UNIT

III.A.1. The Permittee must maintain all facilities included in Condition IV, Table 1 to minimize the possibility of a fire, explosion, or any unauthorized sudden or nonsudden release of hazardous waste or hazardous waste constituents to air, soil, or water that could threaten human health or the environment.

III.A.2. The Permittee must not manage any new wastes.

III.B. REQUIRED NOTICE

(RESERVED)

III.C. GENERAL WASTE ANALYSIS

RESERVED. As per Condition II.E.28.a.(1).

III.D. SECURITY The Permittee must comply with the security provisions of LAC 33:V.1507, as referenced in Attachment 1.

III.E. GENERAL INSPECTION REQUIREMENTS

The Permittee must follow the Inspection Plan referenced in Condition II.E.28.a.(8) and Attachment 1. The Permittee must remedy any deterioration or malfunction discovered by an inspection as required by LAC 33:V.1509.C. Records of inspections must be kept as required by LAC 33:V.1509.D. The inspection schedule must include the regulatory requirements of LAC 33:V.517.G, 1509.A and B, and 3523.B.

III.F. PERSONNEL TRAINING

RESERVED. As per Condition II.E.28.a.(2).

III.G. GENERAL REQUIREMENTS FOR IGNITABLE, REACTIVE, OR INCOMPATIBLE WASTE

The Permittee must take precautions as required by LAC 33:V.1517 to prevent accidental ignition or reaction of ignitable or reactive wastes.

III.H. LOCATION STANDARDS

III.H.1. The Permittee has furnished evidence that it is in compliance with seismic standards as required by LAC 33:V.517.T.

III.H.2. The Permittee must not manage any hazardous waste on any portion of the property that lies within the 100 year flood plain (as identified in the Flood Insurance Rating Map) unless such areas are raised above this flood level or other means (e.g., levees) are provided to protect such areas from washouts, overtopping by wave action, soil erosion or other effects of such a flood as required by LAC 33:V.1503.B.3. Such site improvements must be certified by independent licensed professional engineers and approved by LDEQ prior to any hazardous waste and/or hazardous waste units being placed thereon.

III.I. PRECIPITATION RUN-ON AND RUN-OFF

The Permittee must provide for the control by diversion or treatment of run-on and run-off resulting from a rainfall of at least twelve (12) inches, occurring during a period of twenty-four (24) hours in conformity with locally available records of a twenty-four (24) hour rainfall as per LAC 33:V.1503.B.2. The Permittee shall comply with the requirements of LAC 33:V.2911.

III.J. HURRICANE EVENTS

RESERVED. As per ConditionII.E.28.a.(3).

III.K. PREPAREDNESS AND PREVENTION

RESERVED. As per ConditionII.E.28.a.(3).

III.L. CONTINGENCY PLAN

RESERVED. As per ConditionII.E.28.a.(3).

III.M. MANIFEST SYSTEM

The Permittee shall comply with the manifest requirements of LAC 33:V.Chapter 9 and 11.

III.N. RECORD KEEPING AND REPORTING

III.N.1. Operating Record

RESERVED. As per ConditionII.E.28.a.(7).

III.N.2. Annual Report

The Permittee must comply with the annual report requirements of LAC 33:V.1529.D.

III.N.3. Operations Manual

RESERVED. As per ConditionII.E.28.a.(7).

III.O. POST-CLOSURE

III.O.1. Post-Closure Care

The Permittee must manage the EPD Landfill in accordance with this permit, LAC 33:V. Chapter 35, Subchapter B and LAC 33:V.2521.

III.O.2. Amendment to Post-Closure Permit

The Permittee must request modification to this post-closure permit when necessary, in accordance with LAC 33:V.3523.D. and LAC 33:V.321.

III.O.3. Post-Closure Maintenance

After final closure, the Permittee must comply with all post-closure requirements contained in LAC 33:V.3519 through 3527, including maintenance and monitoring throughout the post-closure care period specified in LAC 33:V.3521.A.1. The Permittee must maintain all units in post-closure according to the requirements in Condition V.B.

III.O.4. Post-Closure Restrictions

The Administrative Authority may require, at partial and final closure, continuation of any of the security requirements of LAC 33:V.1507, during part or all of the post-closure care period when access by the public or domestic livestock may pose a hazard to human health.

III.O.5. Post-Closure Property or Site Use

III.O.5.a. Post-closure use of property on or in which hazardous wastes remain after partial or final closure must never be allowed to disturb the integrity of the final cover, liner(s), or any other components of the containment system, or the function of the permitted closed unit's monitoring systems, unless the Administrative Authority finds that the disturbance:

III.O.5.a.(1) is necessary to the proposed use of the property, and will not increase the potential hazard to human health or the environment; or

III.O.5.a.(2) is necessary to reduce a threat to human health or the environment.

III.O.5.b. Any post-closure activity other than that specified in this permit must have prior approval of the Administrative Authority.

III.O.6. Post-Closure Contact

The Permittee must provide the name, address, and phone number of the person or office to contact about the permitted post-closure units during the post-closure care period.

III.O.7. Certification of Completion of Post-Closure Care

No later than sixty (60) days after completion of the established post-closure care period for the specified unit, the Permittee must submit to the Administrative Authority, by registered mail, a certification that the post-closure care period for the hazardous waste disposal unit(s) was performed in accordance with the specifications in the approved post-closure plan. The certification must be signed by the Permittee and an independent registered professional engineer. Within sixty (60) days after receipt of the certification the Administrative Authority will notify the owner or operator that he is no longer required to maintain financial assurance for post-closure care of that unit, unless the Administrative Authority has reason to believe that post-closure care was not conducted in accordance with the approved post-closure plan.

The certification of post-closure care shall include the certification statement found in the LAC 33:V.513.A or the current certification statement in the Louisiana hazardous waste regulations at the time of completion of post-closure care.

III.P. COST ESTIMATE FOR CARE OF THE POST-CLOSURE UNIT

III.P.1. The Permittee must maintain a cost estimate for the permitted and associated structures as required by LAC 33:V.3709.

III.P.2. The Permittee must maintain and adjust the post-closure cost estimate for inflation, as specified in LAC 33:V.3709.B, C, D, and for other circumstances that increase the cost of post-closure.

III.P.3. The Permittee must base all post-closure cost estimates on the assumption that a third party contractor performs post-closure monitoring and maintenance in accordance with LAC 33:V.3709.A.

III.P.4. The Permittee must consider the inventory and process conditions and their impact on the post-closure cost estimate for any resubmittal.

III.P.5. During the life of the facility, the Permittee must keep, at the facility, its latest post-closure cost estimates, as necessary, to comply with LAC 33:V.3709.D.

III.P.6. Throughout the active life of the facility, the Permittee must adjust and revise its post-closure cost estimates, as necessary, to comply with the provisions of LAC 33:V.3709.

III.Q. FINANCIAL ASSURANCE FOR THE POST-CLOSURE UNIT

Throughout the post-closure care period, the Permittee must provide updates for its financial assurance mechanisms, as necessary, to comply with the provisions of LAC 33:V.3711.

III.R. LIABILITY REQUIREMENTS

(RESERVED)

III.S. INCAPACITY OF THE PERMITTEE

The Permittee must comply with LAC 33:V.3717 whenever bankruptcy is initiated for the Permittee or its institutions providing financial assurance. If insurance is used for compliance with LAC 33:V.3715, the Permittee must immediately notify the Administrative Authority if the insurance company is placed in receivership. The Permittee must establish other financial assurance or liability coverage within sixty (60) days after such an event.

III.T. POST-CLOSURE NOTICES

If the Permittee or any subsequent Permittee of the land upon which this hazardous waste disposal unit is located wishes to remove hazardous wastes and hazardous waste residues, the liner or contaminated soils, he must request a modification to the post-closure permit in accordance with the applicable requirements in LAC 33:V, Chapters 3 and 7. The Permittee must demonstrate that the removal of hazardous wastes will satisfy the criteria of LAC 33:V.3521. By removing hazardous waste, the Permittee may become a generator of hazardous waste and must manage it in accordance with all applicable requirements of LAC 33:V, Subpart 1. If he is granted a permit modification or otherwise granted approval to conduct such removal activities, the Permittee may request that the Administrative Authority approve either:

III.T.1. the removal of the notation on the deed to the facility property or other instrument normally examined during title search; or

III.T.2. the addition of a notation to the deed or instrument indicating the removal of the hazardous waste.

IV. PERMITTED CLOSED UNITS

This permit is applicable only to the unit known as the EPD Landfill located on the property of Union Carbide Corporation, St. Charles Parish, Louisiana. This permit also applies to any appurtenances associated with these units. The appurtenances are defined as any run-on/run-off control systems, leachate collection/leak detection systems, tanks, and/or piping and instrumentation associated with these regulated units. If any additional appurtenances are added in the future, they would be addressed through a permit modification as required by regulation and this permit.

TABLE 1
INVENTORY AT CLOSURE

UNIT NAME	UNIT TYPE	CAPACITY
EPD Landfill	Landfill	54,064 ft^2

V. PERMIT CONDITIONS APPLICABLE TO PERMITTED CLOSED UNITS

V.A. POST-CLOSURE CARE PERIOD

The post-closure care period will be in effect for the period of thirty (30) years, unless extended or shortened by the Administrative Authority, as specified in LAC 33:V.3521.A.1 and 2, Length of Post-Closure.

V.A.1 EPD Landfill: Certified and verified closed on 12/29/1989.

V.B. POST-CLOSURE MAINTENANCE

After final closure, the owner or operator must comply with all post-closure requirements contained in LAC 33:V.3519 through 3527 and Condition III.O of this permit, including maintenance and monitoring throughout the post-closure care period specified in the permit under Condition V.A and LAC 33:V.3521.A.1. The owner or operator must:

V.B.1. for all permitted units, maintain the integrity and effectiveness of the final cover, including making repairs as necessary to correct the effects of settling, subsidence, erosion, or other events;

V.B.2. for all permitted units, maintain and monitor the groundwater monitoring system and comply with all other applicable requirements of LAC 33:V.Chapter 33;

V.B.3. for all permitted units, manage a run-on and run-off control system to prevent erosion at and other damage to the final cover;

V.B.4. for all permitted units, maintain the cover with a final cover designed, constructed and maintained to:

V.B.4.a. provide long-term minimization of migration of liquids through the landfill;

V.B.4.b. function with minimal maintenance at all permitted units;

V.B.4.c. promote drainage and minimize erosion or abrasion of the final cover at all permitted units;

V.B.4.d. accommodate settling and subsidence, as necessary, so that the cover's integrity is maintained for all permitted units; and

V.B.4.e. have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present at the landfill.

V.B.5. The annual report shall include a Post-Closure activity report for the EPD Landfill.

V.C. POST-CLOSURE RESTRICTIONS

The Administrative Authority may require, at partial and final closure, continuation of any of the security requirements of LAC 33:V.1507, during part or all of the post-closure period when access by the public or domestic livestock may pose a hazard to human health.

V.D. POST-CLOSURE USE OF PROPERTY

V.D.1. Post-closure use of property on or in which hazardous wastes remain after partial or final closure must never be allowed to disturb the final cover, liner(s), or any other components of the containment system, or the function of the permitted closed unit's monitoring systems, unless the Administrative Authority find that the disturbance:

V.D.1.a. is necessary to the proposed use of the property and will not increase the potential hazard to human health or the environment; or

V.D.1.b. is necessary to reduce a threat to human health of the environment.

V.D.2. Any post-closure activity other than that specified in this permit must have prior approval of the Administrative Authority.

VI. GROUNDWATER PROTECTION

VI.A. APPLICABILITY

The regulations of LAC 33:V, Chapters 3, 5, 15, 25, 33, 35, and 37, and the Louisiana Hazardous Waste Control Law, Louisiana Revised Statutes R.S., 30:2171 et seq. of the Environmental Quality Act, R.S. 30:2001 et seq., and the provisions of this condition shall apply to groundwater protection programs at the permitted post-closure unit identified in Table 1 of this permit. All requirements of this condition must be satisfied and shall apply until the Administrative Authority has accepted the certification of completion of post-closure care required by regulation and under Condition III.O.7 of this permit. This includes compliance and post-closure care periods. The unit referenced in Table 1 of the permit, known as the EPD Landfill, is subject to post-closure groundwater monitoring. If groundwater contamination is confirmed as a result of operations related to past or present hazardous waste management facilities associated with this site, the Permittee shall establish, expand or continue, assessment and corrective action programs in accordance with the requirements of LAC 33:V.Chapter 33, and as subsequently directed by the Administrative Authority.

VI.B. REQUIRED PROGRAMS

The Permittee must continue to conduct a detection monitoring program per Conditions VI. using all existing systems necessary to comply with monitoring programs specified herein and as stated in the most current approved Sampling and Analysis Plan. All wells associated with the closed EPD Landfill must continue to be monitored uninterrupted in accordance with the requirements of LAC 33:V.Chapter 33, and as subsequently directed by the Administrative Authority. In the event that statistically significant evidence indicates that the concentration limits defined in Condition VI.D. and Table 3 of this permit have been exceeded in any groundwater monitoring well listed in Table 2 of this permit, the Permittee shall modify the permit in accordance with LAC 33:V.321 and Condition VI.J. of this permit in order to establish a corrective action program to remediate the contamination. Corrective actions must continue uninterrupted to the fullest extent until groundwater problems are abated per the requirements of LAC 33:V.3321 and this requirement is terminated through permit modifications in accordance with LAC 33:V.321 and 322, as applicable.

All wells described in Table 2 of this permit must be maintained and protected from moving equipment, and cannot be abandoned unless exempted from the program at a later date by the Administrative Authority, or unless the integrity of the well or piezometer is threatened. In such a case, the well must be replaced with a new well, in conformance with a work plan approved by the Administrative Authority (see Condition VI.K. – Construction and Abandonment of Monitoring Wells and Geotechnical Boreholes). The Permittee must include revised facility maps in the Annual Groundwater Monitoring Report, which will show all of the closed EPD Landfill's detection monitoring, assessment, compliance, and corrective action wells, as applicable.

VI.C. GROUNDWATER PROTECTION STANDARD

VI.C.1. The Permittee must comply with conditions specified in this permit that are designed to ensure that hazardous waste and hazardous waste constituents do not exceed the concentration limits (see Condition VI.D.) in the uppermost permeable zones underlying the waste management areas, beyond or below the points of compliance (see Condition VI.E.) during the compliance period (see Condition VI.F.). The protection standard does not exempt the Permittee from required corrective action regarding contamination detected by wells not assigned as groundwater compliance points.

VI.C.2. The Permittee must utilize and maintain the present groundwater monitoring system for the closed EPD Landfill described in this permit.

VI.C.3. The Permittee must adhere to the approved Sampling and Analysis Plan for the closed EPD Landfill.

VI.D. HAZARDOUS CONSTITUENTS, PARAMETERS, ANALYTICAL FREQUENCY AND CONCENTRATION LIMITS

The wells, hazardous constituents and concentration limits to which the protection standards of LAC 33:V.3305 apply are shown herein in Tables 2 and 3. The sampling frequency for constituents is noted in Table 2. The concentration limits for each hazardous waste constituent specified in Table 3 shall serve as the groundwater protection standard.

The Permittee must institute corrective action in all areas associated with the permitted post-closure units and appurtenances where groundwater has been affected by hazardous wastes, hazardous constituents, or parameters exceeding the assigned concentration limits, and implement corrective measures in other areas which may be discovered to exceed these limits in the future.

Table 2
Monitoring Well Network

Well Name	Associated Unit	Well Type	Zone Screened	Sampling Frequency and Parameters
MW-25	EPD Landfill , & Solid Waste Impoundments	Detection Monitoring	Uppermost Semi-Confined Zone	Semi-Annually(1)
MW-26	EPD Landfill , & Solid Waste Impoundments	Detection Monitoring	Uppermost Semi-Confined Zone	Semi-Annually(1)
MW-30	EPD Landfill	Detection Monitoring. POC	Uppermost Semi-Confined Zone	Semi-Annually(1)
MW-31	EPD Landfill	Detection Monitoring. POC	Uppermost Semi-Confined Zone	Semi-Annually(1)
MW-42	EPD Landfill	Detection Monitoring	Uppermost Semi-Confined Zone	Semi-Annually(1)

Table 3
Groundwater Monitoring Parameters

Parameter	Container Type	Preservation Method	Analytical Method(2)	Concentration Limit
Temperature (1)	Not Applicable	Field Measurement	170.1	Not Applicable
pH(1)	Glass	Field Measurement	9040	Not Applicable
Specific Conductivity(1)	Glass or Plastic	Field Measurement	9050	Not Applicable
Acetone	Glass	4 °C	8260B	25.0 ug/L, PQL (4)
1,2-Dichloroethane	Glass	4 °C	8260B	5.0 ug/L, PQL (4)
1,1,1,-Trichloroethane	Glass	4 °C	8260B	5.0 ug/L, PQL (4)
Total Organic Carbon	Glass	4 °C	9060A	5.0 mg/L, RDL (3)
Turbidity	Glass	4 °C	0180.1	5.0 NTU, RDL (3)

(1) As per VI.G.9, pH and specific conductance will be measured as standard indicator parameters of groundwater contamination which will be used to indicate well integrity and possible groundwater contamination.

(2) Test Methods for Evaluating Solid Waste Physical/Chemical Methods, Third Edition (EPA Publication Number SW-846, 1986 as amended): must be in accordance with the latest edition of SW-846.

(3) RDL - RDL denotes the analyte concentration in a given matrix (groundwater) that has been set at $1/10^{th}$ of the maximum permissible contaminant concentration or laboratory Method Detection Limit (MDL), whichever is higher. Laboratories are required to achieve MDL less than or equal to the RDL value, and must report results below RDL values.

(4) PQL - PQL denotes the lowest analyte concentration in a given matrix (groundwater) that the Administrative Authority believes a competent lab can be expected to achieve consistently. Samples must be analyzed using an

VI.E. POINT OF COMPLIANCE

The point of compliance (POC) at which the groundwater protection standard of LAC 33:V.3305.A applies, and at which monitoring must continue to be conducted, is the downgradient vertical interval (zone) intercepted by the screens of monitoring wells MW-30 and MW-31 at the east and south edges of the closed EPD Landfill, as identified in Table 2 and required by Condition VI.C.2. The horizontal limit of compliance is the surface following an imaginary line connecting the risers of Point of Compliance monitoring wells MW-30 and MW-31, unless amended through permit modifications by the Administrative Authority.

When contamination is detected in the Uppermost Semi-Confined zone currently being monitored, an assessment must be conducted to determine if the next vertical interval (zone) must also be monitored during the compliance period. If contamination is detected in the zone underlying the zone currently monitored by the existing Point of Compliance monitoring wells MW-30 and MW-31 in the waste management area, the next underlying aquifer or permeable zone must also be monitored.

In the event that hazardous constituents are detected at the point of compliance above the groundwater protection standard, the Permittee shall institute a corrective action program. During the corrective action program (i.e., until such time as hazardous constituents are no longer detected above the groundwater protection standard at the point of compliance and beyond), the groundwater quality at each monitoring well (including point of compliance wells, plume defining wells and recovery wells) must be monitored in order to determine the effectiveness of the corrective action. Additional monitoring wells may be installed, as required.

Groundwater quality at each monitoring well shall be determined semi-annually unless contamination has been detected. Then monitoring must be conducted in accordance with the schedules specified in Conditions VI.I. and VI.J. of this permit.

VI.F. COMPLIANCE PERIOD

The compliance period during which the groundwater protection standard of LAC 33:V.3305. applies is until the Administrative Authority has accepted the certification of completion of post-closure care required by regulation and under Condition III.O.7. of this permit. However, if a corrective action program has been implemented, the compliance period can not end until after the Permittee has demonstrated that the corrective action has been effectively implemented and the groundwater protection standard of LAC 33:V.3305. has not been exceeded for a period of three (3) consecutive years.

The Permittee shall determine groundwater quality by monitoring the wells listed in Table 2 for the closed EPD Landfill throughout the thirty (30) year post-closure care monitoring period, or as required by the Administrative Authority.

VI.G. GENERAL REQUIREMENTS

VI.G.1. The Permittee's groundwater monitoring system for the previously identified hazardous waste management facility must consist of all wells as listed in Table 2, unless changed in the future by the Administrative Authority through permit modification.

VI.G.2. The Permittee must continue to maintain the structural and mechanical integrity of all wells and provide protection from accidental damage and surface infiltration, as well as implement a monitoring well inspection schedule. A written report on damage to any well must be submitted to the Administrative Authority in accordance with Condition II.E.22. of this permit.

VI.G.3. Upgradient wells MW-25 and MW-26 must continue to always yield groundwater samples from the Uppermost Semi-Confined water bearing zone that are representative of groundwater that has not been affected by possible leakage from the waste management units. Downgradient wells MW-30, MW-31 and MW-42 and vertical point of compliance wells MW-30 and MW-31 must yield groundwater samples from the Uppermost Semi-Confined water bearing zone that represent the quality of groundwater beneath the facility that flows to the points of compliance.

VI.G.4. The Permittee must continue to conform to the sampling and analysis requirements listed in Conditions VI.C. and as required by LAC 33:V.3315.

VI.G.5. As described in the most recently approved Groundwater Monitoring, Sampling and Analysis Plan (SAP), each well must continue to be measured for total depth and depth to water on the same day and prior to purging. Measurements must be to the nearest 0.01 foot, and the values must be recorded in the field notebook and reproduced and submitted in the Annual Groundwater Report prepared for the closed EPD Landfill. If 10% of the screened interval of a well is blocked by sediments, the well must be redeveloped prior to the next required sampling event.

VI.G.6. Each well must be purged in accordance with the most recent approved SAP. The wells must be sampled immediately upon purging and/or when sufficient water for sampling has recharged the well. Other techniques (e.g., micro-purging) must be approved by the Administrative Authority prior to use in monitoring or corrective action programs.

VI.G.7. As described in the most recently approved SAP, samples must continue to be withdrawn using dedicated or adequately cleaned equipment for each well. No equipment or method may be used that will chemically alter or influence the quality of the sample. Sampling devices other than bailers must be approved by the Administrative Authority prior to use in monitoring or corrective action programs. Care must be taken to avoid placing clean sampling equipment on the ground or on any contaminated surface. Sampling methods and equipment must be compatible throughout the life of the permitted closed unit.

VI.G.8. As described in the approved SAP, groundwater samples shall continue to be monitored and analyzed for turbidity. Samples containing less than five (5) NTU (nephelometric turbidity unit) are acceptable for analysis when the analytical method is sensitive to turbidity (such as the analysis of metals). Samples containing greater than five (5) NTU are acceptable when well development has been confirmed and the sample is the best obtainable. An evaluation of turbidity must accompany all potentially affected analytical values.

VI.G.9. As described in the most recently approved SAP, the Permittee must continue to measure pH, temperature and specific conductance in the field as standard indicators, which will be used to indicate that a sample is representative of groundwater conditions, as well as reveal well integrity and possible groundwater contamination. The results of these measurements must be recorded in the field log book and interpreted.

VI.G.10. As described in the most recently approved SAP, a chain of custody protocol must continue to be employed that will allow for tracking the possession and handling of samples from the time of collection through completion of laboratory analysis. All sample containers must be properly labeled to prevent misidentification, have proper seals, and indicate the test parameters required.

VI.G.11. As described in the most recently approved SAP, sample preservation, handling and analysis must continue to meet of the specifications of LAC 33:V.3315.D and E and Test Methods for Evaluating Solid Waste Physical/Chemical Methods 3rd. Edition (EPA Publication Number SW-846, as amended) or an equivalent substitute (approved by the Administrative Authority prior to implementation). Containers, preservation methods and analytical limits are listed in Table 3 of this permit, respectively.

VI.G.12. The Permittee must continue to use the statistical method outlined in the most recently approved facility SAP or LAC 33:V.3315.H in determining whether background values or concentrations have been exceeded for the hazardous constituents specified in Table 3.

VI.G.13. Records of all sampling and analytical work must continue to be maintained at the site during the life of the facility, including the post-closure care period. A current field log book (or compilation of field log sheets) must be kept at the site which documents (for each sample) the well identification number, total well depth, elevation of top of casing, water level, water color (visual), well evacuation procedures and equipment, sample withdrawal procedures and equipment, date, time sample identification numbers, field measurements (pH, specific conductance, etc.) and methods, name of collector, field observations, calculations of the standing water volume in the well, and the total volume evacuated.

VI.H. DETECTION MONITORING PROGRAM

VI.H.1. Any downgradient wells that become contaminated, but eventually produce groundwater samples with analytical results below the permitted concentration limits for monitored constituents for at least three (3) years as the result of a corrective action program, may be re-scheduled for detection monitoring on a schedule approved by the Administrative Authority.

VI.H.2. The Permittee must utilize the existing groundwater detection monitoring system for the closed EPD Landfill as required by LAC 33:V.3315 to continue to obtain samples that provide a reliable indication of the presence of hazardous wastes or constituents in groundwater when compared to the concentration limits provided in Table 3 or background values, as applicable and as approved by the Administrative Authority.

VI.H.3. The existing groundwater detection monitoring system for the closed EPD Landfill shall be sampled according to the frequency specified in the most current approved SAP. After completing the analytical work and subsequent review of analyses and computations, the Permittee shall compile reports containing the test results, the statistical comparative data, groundwater potentiometric maps, graphs, copies of the field log book notes and chain of custody where appropriate, and a list of the parameters that were statistically significant for the sampling event. This information shall be submitted to the Administrative Authority semi-annually and maintained at the plant site as provided in Condition VI.G.13, except that statistically significant parameter measurements must be forwarded for review by the Administrative Authority in accordance with Section VI.H.5.

VI.H.4. The monitoring system outlined in Section VI.C.2 and Table 2 must be utilized for groundwater sampling.

VI.H.5. If the Permittee determines that there is statistically significant evidence of contamination for chemical parameters or hazardous constituents specified pursuant to LAC 33:V.3317.A at any monitoring well at the compliance point, the Permittee must do the following:

VI.H.5.a. Notify the Administrative Authority of this finding in writing within seven days. This notification must indicate what chemical parameters or hazardous constituents have shown statistically significant evidence of contamination.

VI.H.5.b. Immediately sample the groundwater in all monitoring wells for confirmation and determine whether constituents listed in LAC 33:V.3325.Table 4 are present, and if so, in what concentration.

VI.H.5.c. For any LAC 33:V.3325. Table 4 compounds found in the analysis pursuant to Section VI.H.5.b above, the Permittee may resample within one month and repeat the analysis for those compounds detected. If the results of the

second analysis confirm the initial results, then these constituents will form the basis for compliance monitoring. If the Permittee does not resample for the compounds found pursuant to Section VI.H.5.b above, the hazardous constituents found during this initial analysis will form the basis for compliance monitoring. If contamination is not confirmed, the Permittee shall continue monitoring according to the schedule specified in the most current SAP. The Permittee must address confirmed groundwater contamination problems at the direction of the Administrative Authority, regardless of the source of the contamination.

VI.H.6. The Permittee must submit an application for a permit modification to the Administrative Authority within ninety days from the date of the confirmation of contamination. The application must include:

VI.H.6.a. An identification of the concentration of any LAC 33:V. 3325. Table 4 constituent detected in the groundwater at each monitoring well at the compliance point;

VI.H.6.b. Any proposed changes to the groundwater monitoring system at the facility necessary to meet the requirements of LAC 33:V.3319;

VI.H.6.c. Any proposed additions or changes to the monitoring frequency, sampling and analysis procedures or methods, or statistical methods used at the facility necessary to meet the requirements of LAC 33:V.3319; and

VI.H.6.d. For each hazardous constituent detected (as defined in LAC 33:V.3301.A.1) at the compliance point, a proposed concentration limit under LAC 33:V.3309.

VI.H.7. If the Permittee determines that there is a statistically significant difference for chemical parameters of hazardous constituents, which are specified pursuant to the groundwater protection standard, listed in most recently approved SAP or Section VI.D at any monitoring well at the compliance point, the Permittee may demonstrate that a source other than a regulated unit caused the contamination or that the detection is an artifact caused by an error in sampling, analysis, or statistical evaluation or natural variation in the groundwater.

The Permittee may make a demonstration under this Paragraph in addition to, or in lieu of, submitting a permit modification application; however, the Permittee is not relieved of the requirement to submit a permit modification application within the time specified in LAC 33:V.3317.G.4 unless the demonstration made under this Paragraph successfully shows that a source other than a regulated unit caused the increase, or that the increase resulted from error in sampling, analysis, or evaluation. In making a demonstration under this Paragraph the Permittee must:

VI.H.7.a. Notify the Administrative Authority in writing within seven days of determining statistically significant evidence of contamination at the compliance point that he or she intends to make a demonstration under this Paragraph;

VI.H.7.b. Within 90 days, submit a report to the Administrative Authority that demonstrates that a source other than a regulated unit caused the contamination or that the contamination resulted from error in sampling, analysis, or evaluation;

VI.H.7.c. Within 90 days, submit to the Administrative Authority an application for a permit modification to make any appropriate changes to the detection monitoring program facility; and

VI.H.7.d. Continue to monitor in accordance with the detection monitoring program established under this permit.

VI.H.8. If the Permittee determines that the detection monitoring program no longer satisfies the requirements of this permit, the Permittee, within 90 days, shall submit an application for a permit modification to make any appropriate changes to the program.

VI.I. COMPLIANCE MONITORING

Whenever groundwater contamination by hazardous constituents has been confirmed at the points of compliance resulting from operations related to the hazardous waste management unit identified as the closed EPD Landfill, the Permittee shall conduct a Compliance Monitoring Program in accordance with LAC 33:V.3319 and as stipulated in Condition VI.H.5. above.

VI.I.1. The Permittee shall determine the concentration of each hazardous constituent listed in Table 3 of this permit at least quarterly (from groundwater in the wells listed in Table 2 of this permit) during the compliance monitoring periods.

VI.I.2. The Permittee shall determine whether the concentrations of hazardous constituents determined under Condition VI.I.1 of this permit exhibit statistically significant evidence of increased contamination. The Permittee shall complete the statistical analysis included in the most recent approved SAP within sixty (60) days of the groundwater monitoring event.

VI.I.3. The Permittee shall annually analyze samples from all point of compliance wells in Table 2 of this permit for all constituents listed in LAC 33:V.3525, Table 4, in order to determine whether additional hazardous constituents are present in the Uppermost Semi-Confined water bearing zone (and, if so, at what concentration), pursuant to the conditions of this permit.

VI.I.4. In the event additional LAC 33:V.3525, Table 4, constituents (not already identified in the permit as monitoring constituents) are detected, the Permittee may resample within one month and repeat the LAC 33:V.3525, Table 4 analysis. If the second analysis confirms the presence of new constituents, the Permittee must report the

concentrations of these additional constituents to the Administrative Authority within seven (7) days after completion of the second analysis. In addition, the Permittee must submit a permit modification application to add the additional constituents to Table 3 of this permit in accordance with LAC 33:V.321 and Condition II.C of this permit.

VI.I.5. In the event the Permittee determines concentration limits, as defined in LAC 33:V.3309 and Condition VI.D of this permit, have been exceeded at any monitoring wells at the point of compliance, the Permittee must:

VI.I.5.a. Notify the Administrative Authority in writing within seven (7) days of this finding. The notification must indicate the constituent(s) and concentration(s) for those constituents which have exceeded their respective concentration limits.

VI.I.5.b. Submit an application for a permit modification to establish a corrective action program meeting the requirements of LAC 33:V.3321 within 180 days (or ninety (90) days if the Permittee has previously submitted a certified engineering feasibility study under LAC 33:V.3317.G.5.b. The application must include the following information:

VI.I.5.b.(1). a detailed description and schedule for assessment and corrective actions that will achieve compliance with the groundwater protection standard specified in Conditions VI.C. and D. of this permit;

VI.I.5.b.(2). a geotechnical plan (certified by a qualified geologist or a geotechnical engineer) to demonstrate the effectiveness of the planned corrective actions. This plan may incorporate the Compliance Monitoring Program developed to meet the requirements of this permit, except that the Permittee will be required to monitor as frequently as necessary to demonstrate the effectiveness of the corrective action.

VI.I.6. If the Permittee determines, pursuant to Condition VI.I.1, that there is statistically significant evidence of contamination for indicator parameters or hazardous constituents at any point of compliance well, the Permittee may demonstrate that a source other than a regulated unit caused the contamination, or that the detection is an artifact caused by an error in sampling, analysis, or statistical evaluation, or natural variation in the groundwater. In making a demonstration under this Condition, the Permittee, must:

VI.I.6.a. Notify the Administrative Authority in writing within seven (7) days that the Permittee intends to make a demonstration under this Condition;

VI.I.6.b. Within ninety (90) days, submit a report to the Administrative Authority which demonstrates that a source other than a regulated unit caused the standard to be exceeded or that the apparent noncompliance with the standard resulted from an error in sampling, analysis or evaluation;

VI.I.6.c. Within ninety (90) days, submit to the Administrative Authority an application for a permit modification to make any appropriate changes to the Compliance Monitoring Program; and

VI.I.6.d. Continue to monitor in accordance with the Compliance Monitoring Program established under this permit.

VI.I.7. If the Permittee determines that the Compliance Monitoring Program no longer satisfies the requirements of this permit, he or she must, within ninety (90) days submit an application for a permit modification to make any appropriate changes to the program.

Any time the Administrative Authority determines that the Compliance Monitoring Program does not satisfy the requirements of this permit, the Permittee shall, within ninety (90) days of notification of such determination, submit an application for a permit modification to make any appropriate changes to the program.

VI.J. CORRECTIVE ACTION PROGRAM

Whenever the groundwater protection standard under LAC 33:V.3305 is exceeded and groundwater contamination has been confirmed as the result of operations related to the hazardous waste management unit identified as the closed EPD Landfill, the Permittee shall institute a Corrective Action Program in accordance with the requirements of LAC 33:V.3321 and as subsequently directed by the Administrative Authority. Groundwater quality sampling, water level measurements and the general compilation of data to demonstrate the effectiveness of the corrective action program must be made until compliance with the groundwater protection standard is achieved for at least three (3) years or until this requirement is terminated in writing by the Administrative Authority (after the data indicates adequate control of contaminant migration and concentration increases).

VI.J.1. The Permittee must evaluate and report the effectiveness and progress of the corrective action semi-annually to the Administrative Authority as required by LAC 33:V.3321.G. and in accordance with Condition VI.L.1.j. The evaluation shall include the following:

VI.J.1.a. general discussion of the effectiveness of the corrective action in controlling the source of the release, and the progress being made toward completion of the corrective action;

VI.J.1.b. trend analysis and updated schedule for completion of the corrective action;

VI.J.1.c. evaluation of the effectiveness of the corrective action and any encountered problems;

VI.J.1.d. any changes to surrounding land use or environmental receptors that may impact corrective action operations;

VI.J.1.e. recommendations for improvement of the corrective action program;

VI.J.1.f. recovered amounts from each component of a recovery system (e.g., recovery wells, French drain systems, etc.) and the entire system; recovered amounts for both contaminants and all liquids; cumulative recovered amounts for both the reporting period and since recovery implementation; and

VI.J.1.g. graphical and statistical analyses, as required, to demonstrate the effectiveness and progress. The Administrative Authority may also require predictive computer modeling, according to LAC 33:V.3303.D.

VI.J.2. The Permittee must propose and install plume defining wells along the perimeter of the plume that serve to monitor plume migration and any enlargement of the plume.

VI.J.2.a. The plume defining wells must be sampled according to a frequency approved by the Administrative Authority, as part of the on-going evaluation of the corrective action program, for constituents specified in Table 3 and to satisfy LAC 33:V.3315.A.3.

VI.J.2.b. If the Permittee determines that there is statistically significant evidence of contamination for chemical parameters or by the detection of hazardous constituents at any plume defining well previously reported as non-detect, the Permittee must notify the Administrative Authority of the finding in writing within seven (7) days. This notification must indicate what chemical parameters or hazardous constituents have shown statistically significant evidence of contamination. Additionally, the Permittee must do one of the following:

VI.J.2.b.(1) Submit a workplan to the Administrative Authority within ninety (90) days from the date of the confirmation of contamination. The workplan must detail the specific additional assessment procedures that the Permittee will conduct to identify the full extent of the plume, and propose any changes necessary to the corrective action program to achieve the groundwater protection standard. The workplan shall include any proposed changes to the groundwater monitoring system, monitoring frequency, sampling and analysis procedures and methods, and/or statistical methods; or

VI.J.2.b.(2) Demonstrate that a source other than a regulated unit was the cause of the contamination or that the detection is an artifact caused by an error in sampling, analysis, or statistical evaluation or natural variation in the groundwater. The Permittee may make a demonstration under this Paragraph in addition to, or in lieu of, submitting a permit modification application; however, the Permittee is not relieved of the requirement to

submit a permit modification application within the time specified unless the demonstration made under this Paragraph successfully shows that a source other than a regulated unit caused the increase, or that the increase resulted from an error in sampling, analysis, or evaluation. In making a demonstration under this Paragraph the Permittee must:

VI.J.2.b.(2).a. Specify the Permittee's intention to make a demonstration under this Paragraph when notifying the Administrative Authority of the statistically significant evidence of contamination;

VI.J.2.b.(2).b. Within ninety (90) days, submit a report to the Administrative Authority that demonstrates that a source other than a regulated unit caused the contamination or that the contamination resulted from error in sampling, analysis, or evaluation. Additionally, the Permittee must submit an application for a permit modification to make any appropriate changes to the monitoring program; and

VI.J.2.b.(2).c. Continue to monitor in accordance with the monitoring program established under this permit.

VI.J.3. If the Permittee determines that the corrective action program (including monitoring) no longer satisfies the requirements of this permit, the Permittee, within ninety (90) days, shall submit an application for a permit modification to make any appropriate changes to the program.

VI.K. CONSTRUCTION AND ABANDONMENT OF MONITORING WELLS AND GEOTECHNICAL BOREHOLES

The construction and abandonment of groundwater monitoring wells must conform to the standards and guidelines specified in the most recent version of the **"CONSTRUCTION OF GEOTECHNICAL BOREHOLES AND GROUNDWATER MONITORING SYSTEMS HANDBOOK"**, dated May 1993 ("Construction Handbook", May 1993). This document is printed by and available from the Louisiana Department of Transportation and Development (DOTD), Water Resources Section, P.O. Box 94245, Baton Rouge, Louisiana 70804-9245.

A work plan for the construction of a new well must be submitted to the Administrative Authority for approval. Any required new well should be installed within thirty (30) days of approval of the work plan by the Administrative Authority. Upon completion of new or replacement well, a copy of DOTD-GW-1 S, DOTD Well Registration Short Form, is to be provided to the Administrative Authority.

The Permittee must provide for the sealing of any vertical migration path resulting from exploratory borings, leachate collection or detection systems and/or groundwater monitoring programs as provided in LAC 33:V.3323. A work plan for the plugging and abandonment of a well must be submitted for approval by the Administrative Authority, whenever such migration pathways are discovered. Upon completion of well abandonment, a copy of DOTD-GW-2, DOTD Well Plugging and Abandonment Form, is to be provide to the Administrative Authority.

VI.L. REPORTING AND NOTIFICATION REQUIRMENTS

VI.L.1. Annual Groundwater Report

An annual groundwater report must be submitted each year no later than March 1, as required by LAC 33:V.1529.D.8. This report must summarize all groundwater activities for the preceding calendar year, including an evaluation of the monitoring strategy in relation to the direction of groundwater flow and locations of wells associated with the facilities. Applicable calculations must also include groundwater flow contaminant migration rates (as applicable), statistical comparisons, and any other information regarding the groundwater monitoring program required by this permit. The report shall include the following:

VI.L.1.a. a table showing well number, well depth, interval screened, permeable zone monitored, well diameter, screen and casing material (and the type of pump, if applicable) for all wells;

VI.L.1.b. a facility map showing all wells (up-gradient, point of compliance, assessment, plume defining and recovery, as applicable) and identifying zones in which wells are screened;

VI.L.1.c. a scaled potentiometric surface map showing well locations and groundwater elevations with respect to mean sea level for each monitored zone;

VI.L.1.d. all analytical data for the reporting period, including QA/QC;

VI.L.1.e. a summary of all analytical data for the reporting period;

VI.L.1.f. a statistical analysis and evaluation of the data for each hazardous constituent, using a statistical method approved by the Administrative Authority;

VI.L.1.g. graphical representations of the measurements of pH and specific conductance, and concentrations of the hazardous constituents, including:

VI.L.1.g.(1) contaminant concentration isopleth maps;

VI.L.1.g.(2) contaminant concentration versus time graphs;

VI.L.1.h. a discussion of any significant changes in the data from the last reporting period;

VI.L.1.i. a discussion of the down time for any well or part of the monitoring or recovery system, as applicable, and actions taken to return the system to normal operations and maximum efficiency.

VI.L.1.i. a discussion of the effectiveness and progress of any corrective action program, as applicable.

VI.L.2. Notification of Statistically Significant Evidence of Contamination

The Permittee must notify the Administrative Authority in accordance with Conditions VI.H., VI.I. or VI.J. when there is statistically significant evidence of contamination for chemical parameters or hazardous constituents.

VI.L.3. Notification of Release to SPOC

In the event of a release in, into, within, or on any groundwaters of the state, (i.e., any confirmation of contamination in any previously uncontaminated saturated subsurface strata) the Permittee must notify the Department within twenty-four (24) hours of confirming statistically significant evidence of a release. Notification shall be made to the Office of Environmental Compliance, Emergency and Radiological Services Division, Single Point of Contact (SPOC) in accordance with LAC 33:309.L.7 and Condition II.E.18 of this permit. This requirement is in addition to notification requirements to the Administrative Authority discussed in Conditions VI.H., VI.I. or VI.J.

HAZARDOUS AND SOLID WASTE AMENDMENTS

VII. GENERAL CONDITIONS PURSUANT TO THE HAZARDOUS AND SOLID WASTE AMENDMENTS

VII.A. STANDARD CONDITIONS

VII.A.1. Waste Minimization

Annually, by March 1, for the previous year ending December 31, the Permittee shall enter into the operating record as required by LAC 33:V.1529.B.19, a statement certified according to LAC 33:V.513.A specifying that the Permittee has a program in place to reduce the volume and toxicity of hazardous wastes generated by the facility's operation to the degree determined by the Permittee to be economically practicable; and that the proposed method of treatment, storage, or practicable disposal method that is currently available to the Permittee minimizes the present and future threat to human health and the environment. A current description of the program shall be maintained in the operating record and a copy of the annual certified statement shall be submitted to the Administrative Authority. The following criteria should be considered for the program:

VII.A.1.a. Any written policy or statement that outlines goals, objectives, and/or methods for source reduction and recycling of hazardous waste at the facility;

VII.A.1.b. Any employee training or incentive programs designed to identify and implement source reduction and recycling opportunities;

VII.A.1.c. An itemized list of the dollar amounts of capital expenditures (plant and equipment) and operating costs devoted to source reduction and recycling of hazardous waste;

VII.A.1.d. Factors that have prevented implementation of source reduction and/or recycling;

VII.A.1.e. Sources of information on source reduction and/or recycling received at the facility (e.g., local government, trade associations, suppliers, etc.);

VII.A.1.f. An investigation of additional waste minimization efforts that could be implemented at the facility. This investigation would analyze the potential for reducing the quantity and toxicity of each waste stream through production reformulation, recycling, and all other appropriate means. The analysis would include an assessment of the technical feasibility, cost, and potential waste reduction for each option;

VII.A.1.g. A flow chart or matrix detailing all hazardous wastes the facility produces by quantity, type, and building/area;

VII.A.1.h. A demonstration of the need to use those processes that produce a particular hazardous waste due to a lack of alternative processes or available technology that would produce less hazardous waste;

VII.A.1.i. A description of the waste minimization methodology employed for each related process at the facility. The description should show whether source reduction or recycling is being employed;

VII.A.1.j. A description of the changes in volume and toxicity of waste actually achieved during the year in comparison to previous years; and

VII.A.1.k. The Permittee may meet the requirements for waste minimization by developing an Environmental Management System according to the EPA document, Integrated Environmental Management System Implementation Guide, EPA 744-R-00-011, October 2000, found on the EPA website at www.epa.gov/opptintr/dfe/pubs/iems/iems_guide/index.htm.

VII.A.2. Dust Suppression

Pursuant to LAC 33:V.4139.B.4, and the Toxic Substances Control Act, the Permittee shall not use waste or used oil or any other material which is contaminated with dioxin, polychlorinated biphenyls (PCBs), or any other hazardous waste (other than a waste identified solely on the basis of ignitability), for dust suppression or road treatment.

VII.A.3. Failure to Disclose

The Permittee's failure in the application or during the permit issuance process to disclose fully all relevant facts at any time may be cause for termination or modification of this Permit in accordance with LAC 33:V.323.B.2 and 3.

VII.A.4. Suspension, Modification, or Revocation and Reissuance, and Termination of Permit

This Permit may be modified, revoked and reissued, or terminated for cause as specified in LAC 33:V.323. The filing of a request by the Permittee for a permit modification, revocation and reissuance, termination, or the notification of planned changes or anticipated noncompliance on the part of the Permittee, does not stay the applicability or enforceability of any permit condition.

VII.A.4.a. If the Administrative Authority tentatively decides to modify or revoke and reissue a permit under LAC 33:V.321.C. or 323, a draft permit shall be prepared incorporating the proposed changes. The Administrative Authority may request additional information and, in the case of a modified permit, may require the submission of an updated permit application.

VII.A.4.b. The Permittee may initiate permit modification proceedings under LAC 33:V.321.C. All applicable requirements and procedures as specified in LAC 33:V.321.C. shall be followed.

VII.A.4.c. Modifications of this Permit do not constitute a reissuance of the Permit.

VII.A.5. Permit Review

This Permit may be reviewed by the Administrative Authority five years after the date of permit issuance and may be modified as necessary as provided for in LAC 33:V.321.C. Nothing in this section shall preclude the Administrative Authority from reviewing and modifying the Permit at any time during its term.

VII.A.6. Compliance with Permit

Compliance with a RCRA permit during its term constitutes compliance, for purposes of enforcement, with subtitle C of RCRA except for those requirements not included in the permit which:

VII.A.6.a. Become effective by statute;

VII.A.6.b. Are promulgated under LAC 33:V.Chapter 22 restricting the placement of hazardous wastes in or on the land; or

VII.A.6.c. Are promulgated under LAC 33:V.Chapters 23, 25 and 29 regarding leak detection systems for new and replacement surface impoundment, waste pile, and landfill units, and lateral expansions of surface impoundment, waste pile, and landfill units. The leak detection system requirements include double liners, construction quality assurance (CQA) programs, monitoring action leakage rates, and response action plans, and will be implemented through the procedures of LAC 33:V.321.C Class 1 permit modifications.

VII.A.7. Specific Waste Ban

VII.A.7.a. The Permittee shall not place in any land disposal unit the wastes specified in LAC 33:V. Chapter 22 after the effective date of the prohibition unless the Administrative Authority has established disposal or treatment standards for the hazardous waste and the Permittee meets such standards and other applicable conditions of this Permit.

VII.A.7.b. The Permittee may store wastes restricted under LAC 33:V.Chapter 22 solely for the purpose of accumulating quantities necessary to facilitate proper recovery, treatment, or disposal provided that it meets the requirements of LAC 33:V.2205 including, but not limited to, clearly marking each tank or container.

VII.A.7.c. The Permittee is required to comply with all applicable requirements of LAC 33:V.2245 as amended. Changes to the Waste Analysis Plan will be considered permit modifications at the request of the Permittee, pursuant to LAC 33:V.321.C.

VII.A.7.d. The Permittee shall review the waste analysis plan and analyze the waste when a process changes to determine whether the waste meets applicable treatment standards. Results shall be maintained in the operating record pursuant to Condition III.C.1 and 2.

VII.A.8. Information Submittal for the Corrective Action Strategy

Failure to comply with any condition of the Permit, including information submittals, constitutes a violation of the Permit and is grounds for enforcement action, permit amendment, termination, revocation, suspension, or denial of permit renewal application. Falsification of any submitted information is grounds for termination of this Permit (LAC 33:V.323.B.3).

The Permittee shall ensure that all plans, reports, notifications, and other submissions to the Administrative Authority required by this Permit using the Corrective Action Strategy are signed and certified in accordance with LAC 33:V.Chapter 5, Subchapter B. All submittals required under the corrective action strategy must conform to those requirements outlined in the RECAP (see Condition VIII of this permit). Variance from content and/or formatting guidelines provided under the RECAP shall be requested by the Permittee prior to submittal to the Administrative Authority, as deemed necessary. Approval or disapproval of such a request with further guidance on content and formatting will be provided by the Administrative Authority, as deemed necessary. Five (5) copies each of these plans, reports, notifications or other submissions and one (1) electronic copy (3.5" IBM compatible disk or CD-ROM) of all portions thereof which are in word processing format shall be submitted to the Administrative Authority by Certified Mail or hand delivered to:

Louisiana Department of Environmental Quality
Office of Environmental Assessment
Environmental Technology Division
P.O. Box 4314
Baton Rouge, LA 70821-4314

A summary of the planned reporting milestones pursuant to the corrective action requirements of this Permit is found in Condition VIII, Table 1.

VII.A.9. Data Retention

All raw data, such as laboratory reports, drilling logs, bench-scale or pilot-scale data, and other supporting information gathered or generated during activities undertaken pursuant to this Permit shall be maintained at the facility during the term of this Permit, including any reissued Permits.

VII.A.10. Management of Wastes

All solid wastes which are managed pursuant to a remedial measure taken under the corrective action process or as an interim measure addressing a release or the threat of a release from a solid waste management unit shall be managed in a manner protective of human health and the environment and in compliance with all applicable Federal, State and local requirements. As a response to the Louisiana legislature mandate La. R.S. 30:2272 (Act 1092 of the 1995 Regular Session) to develop minimum remediation standards, the LDEQ promulgated the Risk Evaluation Corrective Action Program (RECAP). RECAP's tiered approach to risk evaluation and corrective action establishes not only across the board numerical standards for most media, but also allows for the development of more site-specific numerical standards, as warranted. The Permittee is required to comply with all applicable requirements of RECAP. Approval of units for managing wastes and conditions for operating the units shall be granted through the permitting process.

VII.B. EMISSION STANDARDS - PROCESS VENTS, EQUIPMENT LEAKS, TANKS, SURFACE IMPOUNDMENTS, AND CONTAINERS (AA-BB-CC AIR REGULATIONS)

(RESERVED)

VII.C. SPECIFIC CONDITION - CLOSURE

(RESERVED)

VIII. SPECIAL CONDITIONS PURSUANT TO HAZARDOUS AND SOLID WASTE AMENDMENTS—CORRECTIVE ACTION STRATEGY

Corrective Action for Releases: Section 3004(u) of RCRA, as amended by the Hazardous and Solid Waste Amendments (HSWA), and LAC 33:V.3322 require that permits issued after November 8, 1984, address corrective action for releases of hazardous waste or hazardous constituents from any solid waste management unit at the facility, regardless of when the waste was placed in the unit.

EPA's traditional RCRA corrective action approach is structured around several elements common to most activities. In the first phase, RCRA facility assessment (RFA), EPA or the authorized state assesses the facility to identify releases and determine the need for corrective action. In the second phase, RCRA facility investigation (RFI), the facility conducts a more detailed investigation to determine the nature and extent of contaminants released to ground water, surface water, air, and soil. If remedial action is needed, a third phase, corrective measures study (CMS), is started. During this phase, the facility conducts a study, which when completed, describes the advantages, disadvantages, and costs of various cleanup options. After selection of a final remedy, the fourth phase, corrective measures implementation (CMI), is initiated. The facility is required to design, construct, operate, maintain, and monitor the final remedy(s).

The Corrective Action Strategy (CAS) is an alternate corrective action approach that can be implemented during any phase of corrective action for a release area. The Permittee shall use the CAS approach as the framework for corrective action to clarify, facilitate and expedite the process, and shall use the **Louisiana Department of Environmental Quality Risk Evaluation/Corrective Action Program (RECAP)** for screening and media-specific cleanup standards. EPA has interpreted the term "release" to mean, "any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment." (50 FR 2873, July 15, 1985). The CAS refers to "release areas" as solid waste management units (SWMUs) and areas of concern (AOCs) while the RECAP refers to release areas as areas of investigation (AOIs). SWMUs and AOCs may also be referred to as "AOIs" when investigated and managed under the RECAP.

VIII.A. ALTERNATE CORRECTIVE ACTION

VIII.A.1. Introduction to CAS

This Permit will utilize the CAS Guidance Document (www.epa.gov/Arkansas/6pd/rcra_c/pd-o/riskman.htm) developed by the U.S. Environmental Protection Agency (EPA) Region 6 whenever the Administrative Authority determines that it will serve to facilitate the corrective action. The CAS Guidance Document shall be utilized to the fullest extent practicable for planning and implementation of the corrective action. The CAS in this Permit shall not supersede existing Federal, State, and local regulations. The two primary objectives are to prioritize corrective action at the facility, and streamline corrective action administrative procedures, resulting in the protection of human health and the environment.

The CAS is a performance-based approach; using data quality objectives, investigations begin with the endpoint in mind. The CAS is a risk management strategy that can be implemented during any phase of corrective action. However, the CAS need not be applied to work that has already been completed to the satisfaction of the Administrative Authority. Performance standards are established at the beginning of the corrective action process, allowing earlier and more focused implementation. Releases are screened using RECAP screening numbers to determine the priority of corrective action, and remedial alternatives are selected on the basis of their ability to achieve and maintain the established performance standards.

There is no one specific path through the CAS process. The CAS is a facility-wide approach, focusing corrective action on releases that pose the greatest risk first. Screening releases will also enable some areas of interest to qualify for no further action at this time (Condition VIII.A.3.a.), thus resources can be used to best benefit the protection of human health and the environment. The CAS process also considers activities previously conducted under the traditional RCRA corrective action process. Appendix 1 of this permit contains a summary of corrective action activities completed to date and also describes where the Permittee is in the CAS process at the time of issuance of this permit. The applicability of various provisions of the CAS will depend on where the Permittee is in the CAS process as detailed in Appendix 1 and Attachment A (the November 1989 Settlement Agreement) therein.

The traditional RCRA corrective action process and reports (i.e., RFIs, CMSs, CMIs, etc.) are not elements of the CAS. However, the use of information and reports from the traditional corrective action process, if available, is encouraged, in addition to new site-specific information.

The Administrative Authority, through an agency-initiated permit modification, may remove the CAS as the means of facility-wide corrective action in the case of the failure of the Permittee to disclose information, abide by the terms and conditions of this permit, adhere to agreed schedules, or show adequate progress; or should an impasse occur between the Permittee and the Administrative Authority. The Administrative Authority will institute other means of corrective action (such as traditional corrective action) at the facility through modification of this permit.

VIII.A.2. Performance Standards

Expectations for the outcome of corrective action at a facility are established in the CAS by three performance standards as defined in Conditions VIII.A.2.a through c. The Permittee's proposed performance standards shall be presented during the scoping meeting. The Permittee must justify the proposed performance standards through evaluation and documentation of land use, ground water designation (current and reasonably expected future use), types of receptors present, exposure pathways, etc.; as described in RECAP, Chapter 2. Through the application of the performance standards and RECAP, the Permittee and Administrative Authority shall determine

whether a release must be addressed through corrective action, and whether implemented corrective actions are protective of human health and the environment. The Permittee shall submit the performance standards in writing along with the Conceptual Site Model (Condition VIII.D) within one-hundred and twenty (120) days after the scoping meeting. The Administrative Authority may either approve the performance standards proposed by the Permittee or establish performance standards that the Administrative Authority deems necessary to protect human health and the environment.

The three CAS performance standards are defined below. The order in which the performance standards are listed does not indicate that one performance standard takes priority over another. All applicable performance standards must be achieved by the Permittee.

VIII.A.2.a. Source Control Performance Standard

Source control refers to the control of materials that include or contain hazardous wastes or hazardous constituents that act as a reservoir for migration of contamination to soil, sediment, ground water, surface water, or air, or as a source for direct exposure.

The facility must determine if source material is present. Removal, containment, treatment, or a combination of the three, must be evaluated on a case-by-case basis. Controlling source material is a predominating issue in the CAS, and must be addressed to ensure protectiveness over time. Prioritization of the SWMUs and AOCs does not mean avoidance of controlling source materials.

VIII.A.2.b. Statutory and Regulatory Performance Standard

Applicable statutory and regulatory requirements (Federal, State, and local) must be identified. These requirements may dictate media-specific contaminant levels (e.g., maximum contaminant levels (MCLs) in drinking water) that must be achieved and may become a performance standard for the Permittee.

VIII.A.2.c. Final Risk Goal Performance Standard

The final risk goal is the level of protection to be achieved and maintained by the Permittee. The final risk goal shall be based on site-specific issues including land use, special subpopulations, contaminant concentrations based on acceptable risk, location at which the levels are measured, and the remediation time frame, as specified by RECAP.

One final risk goal may apply to the entire facility, but it is more likely that different releases will require different final risk goals due to variations in location of releases, land use, proximity of receptors, etc. The final risk goal will be based on sound risk assessment methodologies (Condition VIII.A.3).

VIII.A.3. Use of RECAP

The latest edition of the RECAP document shall be used by the Permittee to determine the need for further corrective actions under this permit. The RECAP consists of a tiered framework comprised of a Screening Option (SO), and three Management Options (MO). The tiered management options allow site evaluation and corrective action efforts to be tailored to site conditions and risks. As the MO level increases, the approach becomes more site-specific and hence, the level of effort required to meet the objectives of the Option increases.

The RECAP shall be used by the Permittee to evaluate data quality and data usability (RECAP Section 2.4 and 2.5), to determine the identity of an AOI as described in RECAP Section 2.6, and for estimations of Area of Investigation Concentrations and Groundwater Compliance Concentrations for each media as defined in RECAP Section 2.8.

The RECAP shall be used by the Permittee to evaluate land use as described in RECAP Section 2.9, and groundwater/aquifer use as described in RECAP Section 2.10.

The RECAP shall be used by the Permittee to prioritize AOCs, SWMUs, and AOIs that require remediation such that site investigations are focused on the release areas that pose the greatest risk. As the CSM is compiled, the Permittee shall assess historical data (RECAP Section 2.5) and use the following management options, as appropriate, to address each release site.

VIII.A.3.a. Screening Option

The Permittee shall use the Screening Standards (SS) which are LDEQ-derived screening numbers for soil and groundwater for non-industrial and industrial land use scenarios. The SS shall be used to demonstrate that an AOI does not pose a threat to human health and the environment and, hence does not require further action at this time (NFA-ATT) or that further evaluation is warranted under a higher Management Option.

VIII.A.3.b. Management Option 1

The Permittee shall use Management Option 1 (MO-1) which provides a RECAP standard (RS) derived for non-industrial and industrial exposure scenarios using currently recommended default exposure parameters and toxicity values. Under MO-1, an AOI may warrant a NFA-ATT determination, or if an exposure, source, or compliance concentration detected

at the AOI exceeds a MO-1 limiting RS, then the Permittee may; (1) remediate to the MO-1 limiting RS (and comply with closure/post closure requirements for MO-1), or (2) proceed with a MO-2 or MO-3 evaluation.

VIII.A.3.c. Management Option 2

The Permittee shall use Management Option 2 (MO-2) which provides for the development of soil and groundwater RS using site-specific data with specified analytical models to evaluate constituent fate and transport at the AOI. The results of this evaluation shall be used in conjunction with standard reasonable maximum exposure (RME) assumptions to identify site-specific MO-2 RS. Under MO-2, an AOI may warrant a NFA-ATT determination, or if an exposure, source, or compliance concentration detected at the AOI exceeds a MO-2 limiting RS, then the Permittee may; (1) remediate to the MO-2 limiting RS (and comply with closure/post closure requirements for MO-2), or (2) proceed with a MO-3 evaluation.

VIII.A.3.d. Management Option 3

The Permittee shall use Management Option 3 (MO-3) which provides the option of using site-specific data for the evaluation of exposure and the evaluation of environmental fate and transport at the AOI. The results of the site-specific evaluation may be to develop site-specific MO-3 RS. Under MO-3, an AOI may warrant a NFA-ATT determination, or if an exposure, source, or compliance concentration detected at the AOI exceeds a MO-3 limiting RS, then the Permittee shall; (1) remediate to the MO-3 RS, (2) conduct confirmatory sampling, and (3) comply with closure/post closure requirements for MO-3.

VIII.A.4. Corrective Action for Releases Beyond Facility Boundary

Section 3004(v) of RCRA as amended by HSWA, and State regulations promulgated as LAC 33:V.3322.C. require corrective actions beyond the facility property boundary, where necessary to protect human health and the environment, unless the Permittee demonstrates that, despite the Permittee's best efforts, the Permittee was unable to obtain the necessary permission to undertake such actions. The Permittee is not relieved of all responsibility to clean up a release that has migrated beyond the facility boundary where offsite access is denied.

VIII.A.5. Financial Responsibility

Assurances of financial responsibility for corrective action shall be provided by the Permittee as specified in the Permit following major modification for remedy selection. The Administrative Authority reserves the right to require financial assurance prior to remedy selection based upon facility compliance history, the extent and degree of contamination, financial health of the Permittee, and input from the public.

VIII.A.6. Summary of Corrective Action Activities

A summary of the corrective action activities associated with the facility is provided in Condition VIII, Appendix 1 of this permit. AOCs and SWMUs that are currently being managed or proposed for management under a prescribed corrective action program (e.g., groundwater order, corrective action order, CERCLA) are identified in Condition VIII, Appendix 1, Table 1 of this permit.

VIII.A.7. Approval of Alternate Schedule

The Permittee may submit a written request for an alternate schedule for a submittal deadline as presented in Condition VIII, Table 1. The request should propose a specific alternate schedule and include an explanation as to why the alternate schedule is necessary. The Administrative Authority will consider site-specific criteria in either approving or disapproving the request for an alternate schedule.

VIII.B. PROJECT DEVELOPMENT AND SCOPING MEETING

VIII.B.1. Notice of Intent

The Permittee must submit to the Administrative Authority a Notice of Intent to conduct corrective action using the CAS within sixty (60) days of the effective date of this permit. The notice of intent should state the following in a concise manner:

VIII.B.1.a. General information regarding facility location;

VIII.B.1.b. General information regarding the facility's operational history;

VIII.B.1.c. General discussion on how the Permittee will proceed through the CAS;

VIII.B.1.d. Brief description of proposed performance standards for corrective action; and

VIII.B.1.e. Propose a date for a scoping meeting between the Permittee and the Administrative Authority to be held within sixty (60) days of the date of the Notice of Intent.

VIII.B.2. Scoping Meeting

The scoping meeting will serve as the first CAS milestone where the Permittee and the Administrative Authority identify expectations concerning CAS implementation. The length and extent of the meeting will depend on the complexity of the site. Agreements on land use, groundwater classification, the level of detail required in the conceptual site model (see Condition VIII.D) and expectations for remediation goals will be discussed during the scoping meeting(s). During the scoping meeting the Permittee will present the following information to the Administrative Authority:

VIII.B.2.a. A conceptual site model (if one already has been developed);

VIII.B.2.b. Discussions on history of corrective action at the facility, including facility investigations, risk evaluations or risk assessments, interim measure/stabilizations and final remedies implemented;

VIII.B.2.c. Proposed performance standards for the facility with justification, and potential risk management approaches;

VIII.B.2.d. Discussions on how the Permittee plans to use the CAS to meet its corrective action obligations, including permitting and compliance issues;

VIII.B.2.e. A Communication Strategy Plan that specifies where in the CAS process the Permittee is currently and how the Permittee will provide information about future progress at the facility to the Administrative Authority (i.e., progress reports, conference calls, routine meetings, etc.);

VIII.B.2.f. Site-specific concerns (i.e., sensitive environments or special subpopulations);

VIII.B.2.g. Need for interim measures or stabilization activities, if necessary; and

VIII.B.2.h. Schedule for submittal of the CAS Investigation Workplan and proposed schedule for conducting and completing CAS requirements, including public participation.

Information plans and reports that have already been developed by the Permittee during the corrective action process can be referenced during the scoping meeting. The Permittee must coordinate with the Administrative Authority in order to determine the date, time, and location of the scoping meeting.

VIII.C. REPORTING REQUIREMENTS

VIII.C.1. The Permittee shall submit, in accordance with Condition VII.A.8, signed reports of all activities conducted pursuant to the provisions of this Permit as required by the Administrative Authority. The reporting schedule shall be determined on a case-by-case basis by the Administrative Authority. These reports shall contain, as applicable to the stage of corrective action, the information required by CAS, as well as the following:

VIII.C.1.a. A description of the work completed and an estimate of the percentage of work completed;

VIII.C.1.b. Summaries of all findings, including summaries of laboratory data;

VIII.C.1.c. Summaries of all problems or potential problems encountered during the reporting period and actions taken to rectify problems;

VIII.C.1.d. Projected work for the next reporting period;

VIII.C.1.e. Summaries of contacts pertaining to corrective action or environmental matters with representatives of the local community, public interest groups or State government during the reporting period;

VIII.C.1.f. Changes in key project personnel during the reporting period; and

VIII.C.1.g. Summaries of all changes made in implementation during the reporting period.

VIII.C.2. Copies of other reports relating to or having bearing upon the corrective action work (e.g., inspection reports, drilling logs and laboratory data) shall be made available to the Administrative Authority upon request.

VIII.C.3. In addition to the written reports as required in Condition VIII.C.1 and VIII.C.2 above, at the request of the Administrative Authority, the Permittee shall provide status review through briefings with the Administrative Authority.

VIII.C.4. The determination and approval of remedy selections, schedules of submittals and minor changes to any corrective action workplans may be made by the Administrative Authority during the scoping meeting or status review briefings as described in Condition VIII.C.3.

VIII.D. SPECIFIC CONDITION – CONCEPTUAL SITE MODEL (CSM)

No later than 120 days after the scoping meeting, the Permittee shall submit to the Administrative Authority a CSM (along with the Performance Standards detailed in Condition VIII.A.2) or an update of any CSM submitted at the scoping meeting providing background information and the current conditions at the facility. The level of detail required for the CSM will be discussed during the scoping meeting. At a minimum, the CSM must address current site conditions, land use, known and/or potential constituent source(s), routes of constituent migration, exposure media (i.e., soil, surface waters, groundwater), exposure points, points of compliance and pathways, receptors and source media to be evaluated under the RECAP. The CSM must include a completed Figure 8 (LAC 33:I.Chapter 13). The Permittee may include completed investigations, existing data, or previously submitted documents in the CSM by reference. References must include the names, dates, and brief summaries of the documents.

If a CSM has been previously developed, the scoping meeting will also provide the opportunity for the Permittee and Administrative Authority to consider and identify all data gaps in the CSM. The initial CSM shall be considered the "base document" to be prepared

and updated by the facility as new information is gathered during investigations. The CSM shall be used by the facility to make decisions regarding risk management options, ecological risk, and monitored natural attenuation determinations (RECAP Section 2.16), or technical impracticability (TI) waiver determinations, when appropriate.

The Administrative Authority reserves the right to require revisions to the CSM based upon data resulting from ongoing investigations and activities. Revisions to the CSM may also be required for newly identified SWMUs or AOCs according to Condition VIII.L of this permit (See Appendix 1, Ongoing Corrective Action) and based on new information and information not previously considered by the Administrative Authority.

The CSM shall be divided into Profiles as detailed in Conditions VIII.D.1 through 6. If the Permittee chooses to use existing data and documents in the CSM, it may not be necessary to prepare the Profiles as detailed in Conditions VIII.D.1 through 6. However, the existing documents and data must provide sufficient information and detail which corresponds to the information required by the Facility, Land Use and Exposure, Physical, Release, Ecological, and Risk Management Profiles.

VIII.D.1. Facility Profile

The Permittee shall include in the CSM a Facility Profile which shall summarize the regional location, pertinent boundary features, general facility structures, process areas, and locations of solid waste management units or other potential sources of contaminant migration from the routine and systematic releases of hazardous constituents to the environment (e.g., truck or railcar loading/unloading areas). The Permittee shall also include historical features that may be potential release areas because of past management practices. The Facility Profile shall include:

VIII.D.1.a. Map(s) and other documents depicting the following information (all maps shall be consistent with the requirements set forth in LAC 33:V Chapter 5 and be of sufficient detail and accuracy to locate and report all current site conditions):

VIII.D.1.a.(1) General geographic location;

VIII.D.1.a.(2) Property lines with the owners of all adjacent property clearly indicated;

VIII.D.1.a.(3) Facility structures, process areas and maintenance areas;

VIII.D.1.a.(4) Any other potential release areas shall be delineated, such as railcar loading/unloading areas or any other AOI as described in RECAP Section 2.6; and

VIII.D.1.a.(5) Locations of historical features that may be potential release areas or any areas of past solid and hazardous waste generation, treatment, storage or disposal activities.

VIII.D.1.b. The Facility Profile shall also include a description of ownership and operation of the facility.

VIII.D.1.c. The Permittee shall provide pertinent information for those spills that have not been assessed and reported to the Administrative Authority during facility investigations, addressed by facility spill contingency plans, or previously remediated or deemed for no further action. The information must include at minimum, approximate dates or periods of past waste spills, identification of the materials spilled, the amount spilled, the location where spilled, and a description of the response actions conducted (local, state, federal, or private party response units), including any inspection reports or technical reports generated as a result of the response.

VIII.D.2. Land Use and Exposure Profile

The Permittee shall include in the CSM a Land Use and Exposure Profile which includes surrounding land uses (industrial and non-industrial, as described in RECAP Sections 2.9.1 and 2.9.2), resource use locations (water supply wells, surface water intakes, etc.), beneficial resource determinations (groundwater classifications as described in RECAP Section 2.10), natural resources (wetlands, etc.), sensitive subpopulation types and locations (schools, hospitals, nursing homes, day care centers, etc.), applicable exposure scenarios, and applicable exposure pathways identifying the specific sources, releases, migration mechanisms, exposure media, exposure routes and receptors. The Land Use and Exposure Profile shall include:

VIII.D.2.a. Map(s) and other documents depicting the following information (all maps shall be consistent with the requirements set forth in LAC 33:V Chapter 5 and be of sufficient detail and accuracy to locate and report all current site conditions):

VIII.D.2.a.(1) Surrounding land uses, resource use locations, and natural resources/wetlands;

VIII.D.2.a.(2) Locations of sensitive subpopulations; and

VIII.D.2.a.(3) An exposure pathway flowchart which outlines sources, migration pathways, exposure media and potential receptors as depicted in Figure 8 (CMS example) of the RECAP.

VIII.D.3. Physical Profile

The Permittee shall include in the CSM a Physical Profile which shall describe the factors that may affect releases, fate and transport, and receptors, including; topography, surface water features, geology, and hydrogeology. The Physical Profile shall include:

VIII.D.3.a. Map(s) and other documents depicting the following information (all maps shall be consistent with the requirements set forth in LAC 33:V.Chapter 5 and be of sufficient detail and accuracy to locate and report all current site conditions):

VIII.D.3.a.(1) Topographic maps with a contour interval of five (5) or ten (10) feet, a scale of one inch to 100 feet (1:100), including hills, gradients, and surface vegetation or pavement;

VIII.D.3.a.(2) Surface water features including routes of all drainage ditches, waterways, direction of flow, and how they migrate to other surface water bodies such as canals and lakes;

VIII.D.3.a.(3) Regional geology including faulting and recharge areas, as well as local geology depicting surface features such as soil types, outcrops, faulting, and other surface features;

VIII.D.3.a.(4) Subsurface geology including stratigraphy, continuity (locations of facies changes, if known), faulting and other characteristics;

VIII.D.3.a.(5) Maps with hydrogeologic information identifying water-bearing zones, hydrologic parameters such as transmissivity, and conductivity. Also locations and thicknesses of aquitards or impermeable strata; and

VIII.D.3.a.(6) Locations of soil borings and production and groundwater monitoring wells, including well log information, and construction of cross-sections which correlate substrata. Wells shall be clearly labeled with ground and top of casing elevations (can be applied as an attachment).

VIII.D.4. Release Profile

The Permittee shall include in the CSM a Release Profile which shall describe the known extent of contaminants in the environment, including sources, contaminants of concern (COC), areas of investigations, distribution and magnitude of known COCs with corresponding sampling locations, and results of fate and transport modeling depicting potential future extent/magnitude of COCs. The Release Profile shall include:

VIII.D.4.a. Map(s) and other documents depicting the following information (all maps shall be consistent with the requirements set forth in LAC 33:V. Chapter 5 and be of sufficient detail and accuracy to locate and report all current site conditions):

VIII.D.4.a.(1) Estimations of source concentrations, exposure concentrations and compliance concentrations for each affected media as defined in Section 2.8 of RECAP;

VIII.D.4.a.(2) Isopleth maps depicting lateral extent and concentrations of COCs;

VIII.D.4.a.(3) Results of fate and transport modeling showing potential exposure concentrations and locations; and

VIII.D.4.a.(4) Locations of potential sources including past or present waste units or disposal areas and all SWMUs/AOCs.

VIII.D.4.b. Table(s) depicting the following information for each SWMU/AOC, including but not limited to: location; type of unit/disposal/release area; design features; operating practices (past and present); period of operation; age of unit/disposal/release area; general physical condition; and method of closure.

VIII.D.4.c. Table(s) depicting the following waste/contaminant characteristics for those areas referenced in Condition VIII.D.4.b, including but not limited to: type of waste placed in the unit (hazardous classification, quantity, chemical composition), physical and chemical characteristics (physical form, description, temperature, pH, general chemical class, molecular weight, density, boiling point, viscosity, solubility in water, solubility in solvents, cohesiveness, vapor pressure); and migration and dispersal characteristics of the waste (sorption coefficients, biodegradability, photodegradation rates, hydrolysis rates, chemical transformations).

VIII.D.5. Ecological Profile

The Permittee shall include in the CSM an Ecological Profile that shall describe the physical relationship between the developed and undeveloped portions of the facility, the use and level of disturbance of the undeveloped property, and the type of ecological receptors present in relation to completed exposure pathways. When compiling data for the Ecological Profile, current, as well as, future impacts to receptors and/or their habitats shall be considered. The Ecological Profile shall include:

VIII.D.5.a. A history and description of the developed property on the facility, including structures, process areas, waste management units, and property boundaries;

VIII.D.5.b. A history and description of the undeveloped property, including habitat type (wetland, grassy area, forest, ponds, etc.). Include a description of the primary use, degree and nature of any disturbance, along with proximity to drainage ditches, waterways and landfill areas;

VIII.D.5.c. A description of the site receptors in relation to habitat type, including endangered or protected species, mammals, birds, fish, etc.;

VIII.D.5.d. A description of the relationship between release areas and habitat areas, specifically relating chemicals of potential ecological concern (COEC) to ecological receptors;

VIII.D.5.e. An ecological checklist as described in Section 7.0 of RECAP. An ecological checklist (presented in Appendix C, Form 18 of the RECAP) shall be used to determine if a tier 1 (screening level) Ecological Risk Assessment (ERA) is warranted.

VIII.D.6. Risk Management Profile

The Permittee shall include in the CSM a Risk Management Profile that shall describe how each AOI at the facility will be managed for the protection of human health and the environment. The Risk Management Profile will serve as documentation of the results of the site ranking system (described in Section 2.2 of RECAP). The Risk Management Profile will also document the criteria and verify that the SO, MO-1, MO-2 or MO-3 is appropriate for application at each AOI. The Risk Management Profile shall include:

VIII.D.6.a. A table for tracking the management options for each AOI, and the determination made, whether an AOI is deemed for no further action at this time (NFA-ATT) or is going to use either the SO, MO-1, MO-2 or MO-3 management option.

VIII.D.6.b. A list of identified site-wide data gaps for further investigation.

VIII.D.6.c. Documentation of all interim measures which have been or are being undertaken at the facility, including under State or Federal compliance orders, other than those specified in the Permit. This documentation shall include the objectives of the interim measures and how the measure is mitigating a potential threat to human health or the environment and/or is consistent with and integrated into requirements for a long term remedial solution.

VIII.E. INTERIM MEASURES

VIII.E.1. If at any time during the term of this Permit, the Administrative Authority determines that a release or potential release of hazardous constituents from a SWMU/AOC poses a threat to human health and the environment, the Administrative

Authority may require interim measures. The Administrative Authority shall determine the specific measure(s) or require the Permittee to propose a measure(s). The interim measure(s) may include a permit modification, a schedule for implementation, and an Interim Measures Workplan. The Administrative Authority may modify this Permit according to LAC 33:V.321 to incorporate interim measures into the Permit. However, depending upon the nature of the interim measures, a permit modification may not be required.

VIII.E.2. The Permittee may propose interim measures at any time by submittal of an Interim Measures Workplan subject to the approval of the Administrative Authority.

VIII.E.3. The Administrative Authority shall notify the Permittee in writing of the requirement to perform interim measures and may require the submittal of an Interim Measures Workplan. The following factors will be considered by the Administrative Authority in determining the need for interim measures and the need for permit modification:

VIII.E.3.a. Time required to develop and implement a final remedy;

VIII.E.3.b. Actual and potential exposure to human and environmental receptors;

VIII.E.3.c. Actual and potential contamination of drinking water supplies and sensitive ecosystems;

VIII.E.3.d. The potential for further degradation of the medium in the absence of interim measures;

VIII.E.3.e. Presence of hazardous wastes in containers that may pose a threat of release;

VIII.E.3.f. Presence and concentration of hazardous waste including hazardous constituents in soil that has the potential to migrate to ground water or surface water;

VIII.E.3.g. Weather conditions that may affect the current levels of contamination;

VIII.E.3.h. Risks of fire, explosion, or accident; and

VIII.E.3.i. Other situations that may pose threats to human health and the environment.

VIII.E.5. Upon approval of the Interim Measures Workplan and completion of the interim measure(s) implementation, the Permittee will submit a report to the Administrative Authority describing the completed work.

VIII.E.6. At anytime during or after the interim measure(s), including the issuance of an NFA-ATT, the Administrative Authority may require the Permittee to submit the SWMUs/AOCs for further corrective action.

VIII.F. CAS (CORRECTIVE ACTION STRATEGY) INVESTIGATION WORKPLAN

VIII.F.1. The CAS Investigation Workplan that describes site investigation activities for corrective action shall be submitted to the Administrative Authority within 180 days after the scoping meeting between the Permittee and the Administrative Authority. The CAS Investigation Workplan must address releases of hazardous waste or hazardous constituents to all media, unless otherwise indicated, for those SWMUs/AOCs listed in Appendix 1, Table 1. The focus of the site investigation phase for corrective action is to collect data to fill in data gaps identified in the CSM. The corrective action investigations may be conducted in phases if warranted by site conditions, contingent upon approval by the Administrative Authority.

VIII.F.1.a. The CAS Investigation Workplan shall describe the management options (MO) for each AOI/release area, data quality objectives for achieving each management option, and proposals for release characterizations (sampling and analysis/quality assurance plans) to support the data quality objectives (DQOs). (DQOs are determined based on the end use of the data to be collected, and the DQO development process should be integrated into project planning and refined throughout the CAS implementation. DQOs shall be used to 1) ensure that environmental data are scientifically valid, defensible, and of an appropriate level of quality given the intended use, and 2) expedite site investigations. The CAS Investigation Workplan is required to have DQOs that are developed to support the performance standard for each release.) The CAS Investigation Workplan shall detail all proposed activities and procedures to be conducted at the facility, the schedule for implementing and completing such investigations, the qualifications of personnel performing or directing the investigations, including contractor personnel, and the overall management of the site investigations. The scope of work for the site investigation can be found in RECAP Appendix B.

VIII.F.1.b. The CAS Investigation Workplan shall describe sampling, data collection quality assurance, data management procedures (including formats for documenting and tracking data and other results of investigations) and health and safety procedures.

VIII.F.1.c. Development of the CAS Investigation Workplan and reporting of data shall be consistent with the latest version of the following EPA and State guidance documents or the equivalent thereof:

VIII.F.1.c.(1) Guidance for the Data Quality Assessment, Practical Methods for Data Analysis. QA97 Version EPA QA/G-9. January 1998;

VIII.F.1.c.(2) Guidance for the Data Quality Objectives Process. EPA QA/G-4. September 1994;

VIII.F.1.c.(3) Data Quality Objectives Remedial Response Activities. EPA/540/G87-003. March 1987;

VIII.F.1.c.(4) Guidance on Quality Assurance Project Plans. EPA QA/G-5. February 1998;

VIII.F.1.c.(5) Interim EPA Data Requirements for Quality Assurance Project Plans. EPA Region 6, Office of Quality Assurance. May 1994;

VIII.F.1.c.(6) 29 CFR 1910.120 (b) for the elements to Health and Safety plans;

VIII.F.1.c.(7) RCRA Groundwater Monitoring: Draft Technical Guidance EPA/530-R-93-001 November 1992;

VIII.F.1.c.(8) Test Methods for Evaluating Solid Waste, Physical/Chemical Methods; SW-846, 3rd Edition. November 1992, with revisions;

VIII.F.1.c.(9) The LDEQ Handbook – **"Construction of Geotechnical Boreholes and Groundwater Monitoring Systems," prepared by the LDEQ and the Louisiana Department of Transportation and Development.** This document is printed by and available from the Louisiana Department of Transportation and Development, Water Resources Section, P. O. Box 94245, Baton Rouge, Louisiana 70804-9245; and

VIII.F.1.c.(10) The LAC 33:I.Chapter 13 and Louisiana Department of Environmental Quality Risk Evaluation/Corrective Action Program (RECAP).

VIII.F.2. After the Permittee submits the CAS Investigation Workplan; the Administrative Authority will approve, disapprove, or otherwise modify the CAS Investigation Workplan in writing. All approved workplans become enforceable components of this Permit.

In event of disapproval (in whole or in part) of the workplan, the Administrative Authority shall specify deficiencies in writing. The Permittee shall modify the CAS Investigation Workplan to correct these within the time frame specified in the notification of disapproval by the Administrative Authority. The modified workplan shall be submitted in writing to the Administrative Authority for review. Should the Permittee take exception to all or part of the disapproval, the Permittee shall submit a written statement of the ground for the exception within fourteen (14) days of receipt of the disapproval.

VIII.F.3. The Administrative Authority shall review for approval, as part of the CAS Investigation Workplan or as a new workplan, any plans developed pursuant to Condition VIII.L addressing further investigations of newly-identified SWMUs/AOCs, or Condition VIII.M addressing new releases from previously-identified SWMUs/AOCs.

VIII.G. IMPLEMENTATION OF SITE INVESTIGATION ACTIVITIES UNDER CAS

No later than fourteen (14) days after the Permittee has received written approval from the Administrative Authority for the CAS Investigation Workplan, the Permittee shall implement the site investigation activities according to the schedules and in accordance with the approved CAS Investigation Workplan and the following:

VIII.G.1. The Permittee shall notify the Administrative Authority at least 10 working days prior to any field sampling, field-testing, or field monitoring activity required by this Permit to give LDEQ personnel the opportunity to observe investigation procedures and/or split samples.

VIII.G.2. Deviations from the approved CAS Investigation Workplan, which are necessary during implementation, must be approved by the Administrative Authority and fully documented and described in the progress reports (Condition VIII.C), RECAP Report (Condition VIII.H) and the final Risk Management Plan (Condition VIII.J).

VIII.H. RECAP REPORT

Within ninety (90) days after completion of the site investigation the Permittee shall submit a RECAP Report to the Administrative Authority for approval. The RECAP Report shall document the results of the site investigation activities, and the evaluation of the impacts from releases. The Administrative Authority will review and evaluate the report and provide the Permittee with written notification of the report's approval or a notice of deficiency. If the Administrative Authority determines the RECAP Report does not fully meet the objectives stated in the CAS Investigation Workplan (Permit Condition VIII.F), the Administrative Authority shall notify the Permittee in writing of the report's deficiencies, and specify a due date for submittal of a revised Final Report to the Administrative Authority.

VIII.H.1. The Permittee shall screen site-specific data using the appropriate RECAP standard (RS) for each AOI (depending on the MO), evaluate impacts from releases with exposure scenario evaluations, and update the Risk Management Profile of the CSM.

VIII.H.2. The report shall include, but not be limited to, the following:

VIII.H.2.a. Documentation of site investigation activities and results;

VIII.H.2.b. Evaluation of exposure scenarios to document impacts from releases;

VIII.H.2.c. Deviations from the CAS Investigation Workplan;

VIII.H.2.d. Results of screening activities using RECAP standards (RS), including SO, MO-1, MO-2, or MO-3 RS for each media;

VIII.H.2.e. The revised CSM with updated profiles which incorporate investigation and screening results; and

VIII.H.2.f. Proposed revisions to performance standards based on new information (e.g., change in land use, difference in expected receptors and/or exposure, or other differences in site conditions), if warranted.

VIII.I. REMEDIAL ALTERNATIVES STUDY

Upon completion and approval of the RECAP Report, the Permittee shall proceed with the evaluation of remedial alternatives to complete corrective action for each AOI according to the performance standards described in Condition VIII.A.2. The remedial alternatives shall be submitted to the Administrative Authority in the Remedial Alternatives Study (RAS) within ninety (90) days of the Administrative Authority's approval of the RECAP Report. In the Remedial Alternatives Study, the Permittee shall identify and evaluate various potential remedies that would meet the performance-based corrective action objectives and propose one or more specific remedies based on an evaluation of applicable data and available corrective action technologies. The RAS shall be prepared in a manner that addresses the extent and nature of the contamination at the facility.

VIII.I.1. The Permittee shall evaluate remedies for each AOI that shall:

VIII.I.1.a. attain compliance with corrective action objectives for releases of hazardous waste and/or hazardous constituents, as established in the Conceptual Site Model or in later investigations approved by the Administrative Authority;

VIII.I.1.b. control sources of releases;

VIII.I.1.c. meet acceptable waste management requirements;

VIII.I.1.d. protect human health and the environment; and

VIII.I.1.e. meet applicable statutory and regulatory requirements (as noted in Condition VIII.A.2.b).

VIII.I.2. The Permittee shall evaluate the use of presumptive remedies and innovative technologies to achieve the appropriate remedial performance standards for each AOI.

VIII.I.3. The Permittee shall review the current interim measures/ stabilization activities to evaluate if these measures meet all the criteria for final remedy.

VIII.I.4. If under certain site-specific conditions, or when it is not technically or economically feasible to attain the corrective action objectives, the Permittee may propose to use institutional controls to supplement treatment or containment-based remedial actions upon approval of the Administrative Authority (Section 2.15 of RECAP).

VIII.I.5. The RAS shall at a minimum include:

VIII.I.5.a. An evaluation of the performance reliability, ease of implementation, and the potential impacts of the potential remedies;

VIII.I.5.b. An assessment of the effectiveness of potential remedies in achieving adequate control of sources and meeting remedial performance standards;

VIII.I.5.d. An assessment of the costs of implementation for potential remedies;

VIII.I.5.e. An assessment of the time required to begin and complete the remedy;

VIII.I.5.f. An explanation of the rationale for the remedy proposed for each AOI or group of AOIs; and

VIII.I.5.g. An assessment of institutional requirements (e.g., state permit requirements that may impact remedy implementation).

VIII.I.6. The Administrative Authority will review and evaluate the RAS and provide the Permittee with written notification of the study's approval or a notice of deficiency. If the Administrative Authority determines the RAS does not fully meet the requirements detailed in Conditions VIII.I.1 through VIII.I.5, the Administrative Authority shall notify the Permittee in writing of the RAS's deficiencies, and specify a due date for submittal of a revised RAS to the Administrative Authority. In addition, the Administrative Authority may require the Permittee to evaluate additional remedies or particular elements of one or more proposed remedies.

VIII.J. RISK MANAGEMENT PLAN

Within ninety (90) days of the Administrative Authority's approval of the RAS, the remedy/remedies proposed for selection shall be documented and submitted in the Risk Management Plan. The Permittee shall propose corrective action remedies in accordance with Chapter IV of the RCRA Corrective Action Plan (Final), May 1994, OSWER Directive 9902.3-2A or as directed by the Administrative Authority.

VIII.J.1. The Risk Management Plan shall at a minimum include:

VIII.J.1.a. A summary of the remedial alternatives for each AOI and the rationale used for remedy selection;

VIII.J.1.b. The final CSM with proposed remedies, including locations of AOIs addressed by a risk management activity, COC concentrations that represent the long-term fate and transport of residual COCs and the exposure pathways affected by the risk management activity;

VIII.J.1.c. Cost estimates and implementation schedules for proposed final remedies;

VIII.J.1.d. Proposed remedy design and implementation precautions, including special technical problems, additional engineering data required, permits and regulatory requirements, property access, easements and right-of-way requirements, special health and safety requirements, and community relations activities;

VIII.J.1.e. Remedy performance criteria and monitoring:

The Permittee shall identify specific criteria (such as land use changes, fate and transport model verification and constructed remedy performance) that will be evaluated to demonstrate that the risk management activity implemented will remain protective. A schedule for periodic performance review (such as monitoring data summaries, including graphical and statistical analyses) shall be established to demonstrate that the implemented activities are consistently achieving and maintaining desired results. Further, a mechanism shall be established to re-evaluate risk management activities in the event the implemented action does not achieve and maintain the performance standards;

VIII.J.1.f. Contingency plans; and

VIII.J.1.g. Description and schedules for performance reviews.

VIII.J.2. After the Permittee submits the Risk Management Plan, the Administrative Authority will review and evaluate the plan and subsequently either inform the Permittee in writing that the plan is acceptable for public review or issue a notice of deficiency.

VIII.J.3. If the Administrative Authority determines the Risk Management Plan does not fully meet the remedial objectives, the Administrative Authority shall notify the Permittee in writing of the plan's deficiencies and specify a due date for submittal of a revised Final Risk Management Plan. In addition, the Administrative Authority may require the Permittee to evaluate additional remedies or particular elements of one or more proposed remedies.

VIII.J.4. After the Administrative Authority has determined the Risk Management Plan is acceptable for public review, the Administrative Authority shall inform the Permittee in writing and instruct the Permittee to submit the plan as a Class 3 permit modification request in accordance with the requirements of LAC 33:V.321.C.3.

VIII.J.5. After conclusion of a sixty (60) day comment period, the Administrative Authority will either grant or deny the Class 3 permit modification request. In addition the Administrative Authority must consider and respond to all significant comments received during the sixty (60) day comment period.

VIII.J.6. If the Class 3 Modification request is granted, the Administrative Authority shall prepare a draft permit incorporating the proposed changes in accordance with LAC 33:V.703.C and solicit public comment on the draft permit modification according to Condition VIII.N.3 of this permit.

VIII.J.7. If, after considering all public comments, the Administrative Authority determines that the Risk Management Plan is adequate and complete, the Administrative Authority will issue a public notice for final approval the Class 3 permit modification. The resultant modified permit will include schedules for remedy implementation as well as financial assurance provisions as required by Condition VIII.A.5 of this permit.

VIII.K. DETERMINATION OF NO FURTHER ACTION

VIII.K.1. NFA-ATT DETERMINATIONS FOR SPECIFIC SWMUs/AOCs

VIII.K.1.a. Based on the results of the site investigations, screening, risk evaluations and risk management activities, the Permittee may request a NFA-ATT determination for a specific SWMU/AOC by submittal of a Class 1[I] permit modification ([I] requiring Administrative Authority approval) request under LAC 33:V.321.C.1. The NFA-ATT request must contain information demonstrating that there are no releases of hazardous constituents from a particular SWMU/AOC that pose a threat to human health and/or the environment.

The basis for the determination of NFA-ATT shall follow the guidelines as described in the RECAP (Section 1.2.1 of RECAP) for each AOI, depending on the MO used.

VIII.K.1.b. If, based upon review of the Permittee's request for a permit modification, the results of the site investigations, and other information the Administrative Authority determines that releases or suspected releases from an individual SWMU/AOC which were investigated either are non-existent or do not pose a threat to human health and/or the environment, the Administrative Authority may grant the requested modification.

VIII.K.1.c. In accordance with LAC 33:V.321.C.1.a.ii, the Permittee must notify the facility mailing list within ninety (90) days of the Administrative Authority's approval of the Class 1[1] permit modification request.

VIII.K.2. FACILITY-WIDE NFA-ATT DETERMINATION

VIII.K.2.a. Upon the completion of all activities specified in the Risk Management Plan and after all SWMUs and AOCs at the facility have been remediated according to the standards dictated by the selected RECAP MO, the Permittee shall submit a summary report supporting a determination of NFA-ATT on a facility-wide basis.

VIII.K.2.b. The summary report must include a historical narrative for each SWMU/AOC at the site that includes a summary of the investigation, sampling & analysis, remedial, and confirmatory sampling activities leading to the NFA-ATT request. The basis for the determination of NFA-ATT shall follow the guidelines as described in the RECAP (Section 1.2.1 of RECAP) for each AOI, depending on the MO used. The facility-wide NFA-ATT determination must consider any newly-identified SWMUs/AOCs discovered after submittal of the Risk Management Plan.

VIII.K.2.c. The Administrative Authority will review and evaluate the summary report and subsequently either inform the Permittee in writing that the report is acceptable for public review or issue a notice of deficiency.

VIII.K.2.d. If the Administrative Authority determines the summary report does not fully demonstrate that all remedial objectives have been satisfied, the Administrative Authority shall notify the Permittee in writing of the summary report's deficiencies and specify a due date for submittal of a revised summary report.

VIII.K.2.e. After the Administrative Authority has determined the facility-wide NFA-ATT summary report is acceptable for public review, the Administrative Authority shall inform the Permittee in writing and instruct the Permittee to submit the summary report as a Class 3 permit modification request in accordance with the requirements of LAC 33:V.321.C.3.

VIII.K.2.f. After conclusion of a sixty (60) day comment period, the Administrative Authority will either grant or deny the Class 3 permit modification request. In addition the Administrative Authority must consider and respond to all significant comments received during the sixty (60) day comment period.

VIII.K.2.g. If, based upon review of the Permittee's Class 3 permit modification request, the results of the site investigations, confirmatory sampling, and other pertinent information, the Administrative Authority determines that all SWMUs and AOCs have been remediated to the selected MO and no further action at the facility is warranted, the Administrative Authority will grant the modification request.

VIII.K.2.h. If the Class 3 Modification request is granted, the Administrative Authority shall prepare a draft permit incorporating the proposed changes in accordance with LAC 33:V.703.C and solicit public comment on the draft permit modification according to Condition VIII.N.4 of this permit.

VIII.K.2.i. If, after considering all public comments, the Administrative Authority determines that all activities specified in the Risk Management Plan have been completed and that all SWMUs and AOCs have been remediated to the selected MO, the Class 3 permit modification for facility-wide NFA-ATT will receive final approval. The CAS permit conditions will remain a part of the modified permit in the event that the remedial actions taken fail to maintain the established performance standard and to address any SWMUs/AOCs discovered at a later date.

VIII.K.3. CONTINUED MONITORING

If necessary to protect human health and/or the environment, a determination of NFA-ATT shall not preclude the Administrative Authority from requiring continued monitoring of air, soil, groundwater, or surface water, when site-specific circumstances indicate that releases of hazardous waste or hazardous constituents are likely to occur.

VIII.K.4. ADDITIONAL INVESTIGATIONS

A determination of NFA-ATT shall not preclude the Administrative Authority from requiring further investigations, studies, or remediation at a later date, if new information or subsequent analysis indicates a release or likelihood of a release from a SWMU/AOC at the facility that is likely to pose a threat to human health and/or the environment. In such a case, the Administrative Authority shall initiate a modification to the Permit according to LAC 33:V.321.

VIII.L. NOTIFICATION REQUIREMENTS FOR AND ASSESSMENT OF NEWLY-IDENTIFIED SWMUs AND POTENTIAL AOCs

VIII.L.1. The Permittee shall notify the Administrative Authority, in writing, of any newly-identified SWMUs and potential AOCs (i.e., a unit or area not specifically identified during previous corrective action assessments, RFA, etc.), discovered in the course of ground water monitoring, field investigations, environmental audits, or other means, no later than thirty (30) days after discovery. The Permittee shall also notify the Administrative Authority of any newly-constructed land-based SWMUs

(including but not limited to, surface impoundments, waste piles, landfills, land treatment units) and newly-constructed SWMUs where any release of hazardous constituents may be difficult to identify (e.g., underground storage tanks) no later than thirty (30) days after construction. The notification shall include the following items, to the extent available:

VIII.L.1.a. The location of the newly-identified SWMU or potential AOC on the topographic map required under LAC 33:V.517.B. Indicate all existing units (in relation to other SWMUs/AOCs);

VIII.L.1.b. The type and function of the unit;

VIII.L.1.c. The general dimensions, capacities, and structural description of the unit (supply any available drawings);

VIII.L.1.d. The period during which the unit was operated;

VIII.L.1.e. The specifics, to the extent available, on all wastes that have been or are being managed at the SWMU or potential AOC; and

VIII.L.1.f. Results of any sampling and analysis required for the purpose of determining whether releases of hazardous waste including hazardous constituents have occurred, are occurring, or are likely to occur from the SWMU/AOC.

VIII.L.2. Based on the information provided in the notification, the Administrative Authority will determine whether or not the area is a newly-identified SWMU or AOC. If the area is determined to be a newly-identified SWMU or AOC, the Administrative Authority will inform the Permittee in writing and request that the Permittee submit a Class 1[1] permit modification request under LAC 33:V.321.C.1 to add the newly-identified SWMU/AOC to Appendix 1, Table 1 of this permit.

Further, the Administrative Authority will determine the need for further investigations or corrective measures at any newly identified SWMU or AOC. If the Administrative Authority determines that such investigations are needed, the Administrative Authority may require the Permittee to prepare a plan for such investigations. The plan for investigation of SWMU or AOC will be reviewed for approval as part of the current CAS Investigation Workplan or a new CAS Investigation Workplan. The results of the investigation of any newly-discovered SWMU/AOC shall be incorporated into the CSM.

VIII.M. NOTIFICATION REQUIREMENTS FOR NEWLY-DISCOVERED RELEASES AT A SWMU OR AOC

The Permittee shall notify the Administrative Authority of any release(s) from a SWMU or AOC of hazardous waste or hazardous constituents discovered during the course of ground water monitoring, field investigation, environmental auditing, or other means. The notification must be in accordance with the procedures specified in Conditions II.E.16 through II.E.20 of this permit and based upon the nature, extent, and severity of the release. Such newly-discovered releases may be from newly-identified SWMUs or AOCs, newly-constructed SWMUs, or from SWMUs or AOCs for which, based on the findings of the CSM, completed RECAP Report, or investigation of an AOC, the Administrative Authority had previously determined no further investigation was necessary. The notification shall include information concerning actual and/or potential impacts beyond the facility boundary and on human health and the environment, if available at the time of the notification.

The Administrative Authority may require further investigation and/or interim measures for the newly-identified release(s), and may require the Permittee to prepare a plan for the investigation and/or interim measure. The plan will be reviewed for approval as part of the CAS Investigation Workplan or a new CAS Investigation Workplan. The Permit will be modified to incorporate the investigation, according to the Class 1[1] permit modification ([1] requiring Administrative Authority approval) procedures under LAC 33:V.321. The results of the investigation of any newly-identified release(s) shall be incorporated into the CSM.

VIII.N. PUBLIC PARTICIPATION REQUIREMENTS

Public participation is an essential element in the implementation of any corrective action program at the facility. The CAS promotes the early and continued involvement of stakeholders in site remediation activity during permit issuance, renewal, or modification. The public is invited to review and comment on the corrective action requirements contained in any draft permitting decisions or draft permit modification documents and the associated plans and reports submitted by the Permittee. The Administrative Authority reserves the right to require more extensive public participation requirements based upon site-specific conditions and other relevant factors (e.g., compliance history, potential offsite impact, community interest, etc.). At a minimum, the public participation requirements shall include the following.

VIII.N.1. NFA-ATT Determinations for Specific SWMUs/AOCs

Based on the results of the site investigations, screening, risk evaluations and risk management activities, the Permittee may request a NFA-ATT determination for a specific SWMU/AOC by submittal of a Class 1[1] permit modification request ([1] requiring Administrative Authority approval) under LAC 33:V.321.C.1. The Permittee must notify the facility mailing list within 90 days of the Administrative Authority's approval of the Class 1[1] permit modification request, in accordance with LAC 33:V.321.C.1.a.ii and Condition VIII.K.1.c of this permit.

VIII.N.2. Draft Permitting Decision

The public may review and comment on the terms and conditions of the CAS during the public notice and comment period of the draft permitting decision. The Administrative Authority shall issue public notice upon preparation of the draft permitting decision in accordance with LAC 33:V.715. During the forty-five (45) day public comment period, the Administrative Authority will accept public comments on the draft permitting decision. At the end of the public comment period, the Administrative Authority will consider and address all public comments and make any necessary revisions to the draft permitting decision. After addressing all public comments, the Administrative Authority will issue a public notice for issuance of the final permitting decision. The final permitting decision will include a "Responsiveness Summary" detailing all comments received on the draft permitting decision and the actions taken (if necessary) to correct the draft before issuance of the final permitting decision.

VIII.N.3. Final Remedy Selection

The public may review and comment on the terms and conditions of the Risk Management Plan as described in Conditions VIII.J.4 through VIII.J.7 of this permit. If after addressing all public comments the Administrative Authority determines that the Risk Management Plan is satisfactory, the Administrative Authority will prepare a draft permit modification document in accordance with LAC 33:V.703.C.

The draft permit modification document will include a "Basis of Decision". The "Basis of Decision" will identify the proposed remedy for corrective action at the site and the reasons for its selection, describe all other remedies that were considered, and solicit for public review and comments on the Risk Management Plan included in the draft permit modification document.

After addressing all public comments, the Administrative Authority will issue a public notice for issuance of the final permit modification. The final permit modification will include a "Responsiveness Summary" detailing all comments received on the draft permit modification and the actions taken (if necessary) to correct the draft before issuance of the final permit modification.

VIII.N.4. Facility-Wide NFA-ATT

Upon the completion of all activities specified in the Risk Management Plan and after all facility remedial objectives have been met, the Permittee may submit a summary report for a determination of NFA-ATT on a facility-wide basis in accordance with Condition VIII.K.2 of this permit. The public may review and comment on the summary report as described in Condition VIII.K.2.b. If after addressing all public comments the Administrative Authority determines that all SWMUs and AOCs have been remediated to the selected MO and no further action at the facility is warranted, the Administrative Authority will prepare a draft permit modification document in accordance with LAC 33:V.703.C.

The draft permit modification document will include a "Basis of Decision". The "Basis of Decision" will provide a summary detailing contamination sources, site investigations, the MO selected for the facility, facility remedial standards, remedial actions, and sampling results demonstrating that the facility remedial standards have been achieved.

After addressing all public comments, the Administrative Authority will issue a public notice for issuance of the final permit modification. The final permit modification will include a "Responsiveness Summary" detailing all comments received on the draft permit modification and the actions taken (if necessary) to correct the draft before issuance of the final permit modification.

Table 1: Corrective Action Strategy Notification and Reporting Requirements

Below is a summary of the major notifications and reports that may be required by the Administrative Authority under the Corrective Action Strategy of this Permit in the event of releases requiring RCRA corrective action. The Administrative Authority will notify the Permittee of the notification and reporting requirements during the scoping meeting or another applicable stage of the corrective action process.

ACTION	DUE DATE
Submit Notice of Intent to request use of the CAS to the Administrative Authority for review and comment (Condition VIII.B.1)	Within sixty (60) days of the effective date of this permit (if facility corrective action is required)
CAS Scoping Meeting held between facility and Administrative Authority (Condition VIII.B.2)	Within sixty (60) days of submittal of the Notice of Intent
Submit Progress Reports on all activities to the Administrative Authority (Condition VIII.C.1)	Schedule to be determined by the Administrative Authority on a case-by-case basis
Make available other reports relating to corrective action to the Administrative Authority (Condition VIII.C.2)	Upon request of the Administrative Authority
Provide briefings to the Administrative Authority (Condition VIII.C.3)	As necessary and upon request by the Administrative Authority
Submit Conceptual Site Model (CSM) (Condition VIII.D) and facility Performance Standards (Condition VIII.A.2) to the Administrative Authority	Within one-hundred and twenty (120) days after the scoping meeting
Perform Interim Measures (Condition VIII.E)	As determined by the Administrative Authority on a case by case basis
Submit Corrective Action Strategy (CAS) Workplan for the facility investigation to the Administrative Authority (Condition VIII.F)	Within one-hundred and eighty (180) days after the CAS Scoping Meeting
Implement site investigation activities under CAS Investigation Workplan according to approved schedule (Condition VIII.G)	Within fourteen (14) days of receipt of approval by the Administrative Authority

Submit RECAP Report to the Administrative Authority (Condition VIII.H)	Within ninety (90) days of completion of the site investigation
Submittal of Remedial Alternatives Study (RAS) to the Administrative Authority (Condition VIII.I)	Within ninety (90) days of completion of approval of the RECAP Report by the Administrative Authority
Submit Risk Management Plan to the Administrative Authority (Condition VIII.J)	Within ninety (90) days of approval of the RAS by the Administrative Authority
Submit requests for unit specific and facility-wide NFA-ATT determinations to the Administrative Authority (Condition VIII.K)	As necessary
Notification of newly-identified SWMUs and potential AOCs (Condition VIII.L)	Thirty (30) days after discovery
Notification of newly-discovered releases (Condition VIII.M)	According to the requirements of Conditions II.E.16 through II.E.20 of this permit

APPENDIX 1: SUMMARY OF CORRECTIVE ACTION ACTIVITIES

The intent of Appendix 1 is to provide an overview of the history and current status of the corrective action process at the Union Carbide Corporation – Taft Plant (UCC) at the time of issuance of the final post-closure permit and may not necessarily provide a definitive regulatory determination for a particular Solid Waste Management Unit (SWMU) or Area of Concern (AOC). The classification of an individual SWMU or AOC is subject to change by the Administrative Authority based on the results of future analytical testing, changes in subsurface conditions, and additional information that becomes available to the Administrative Authority.

A RCRA Facility Assessment (RFA) was conducted at the Union Carbide Corporation – Taft Facility (UCC) by A.T. Kearney, Inc., and the RFA report, dated June 16, 1986, was prepared for EPA Region VI. The RFA identified 138 potential SWMU's and AOC's at the site. Following further review and negotiation, the list was reduced to 19 SWMU's. It was agreed that four of the SWMU's required no further action under the RCRA Facility Investigation (RFI):

- Lime Impoundments (no detected releases, non-hazardous)
- Acrolein Waste Pile (contents delisted as hazardous waste, 40 CFR Part 261 Appendix IX, Table 3)
- Return Cooling Water System (governed by NPDES/later LPDES permit)
- Waste Transfer Ditch (closed during June – August 1989 and monitored under the authority of LDEQ)

Of the remaining fifteen (15) SWMU's requiring further action under the RFI, the following five (5) SWMU's required 'reporting only', since they were already part of a groundwater monitoring and/or corrective action program administered by the LDEQ:

- Primary Solids Settling Basin
- No. 3 Complex Stormwater Pond
- EPD Burn Pit (MW-28 Area)
- Acetylene Holder Facility
- Olefins I Process Unit (Quench Tar Pit, Dripolene Area)

The following ten (10) SWMUs required further investigation as described in the *RCRA Facility Investigation (RFI) Workplan* dated November 12, 1990, approved by EPA in correspondence dated March 19, 1991:

- East Landfill
- Equalization Basin
- No. 1 Complex South Skimmer (Tetralin Diglycol Area)
- Grit Chamber – Primary WWTF
- Olefins II
- South Landfill

- Acrylics Skimmer
- EPD Residue Tank Farm
- Peracetic Acid Basin
- Distribution: Tank Car/Tank Truck Racks

During 1990, UCC prepared assessment work plans to meet the requirements of the UCC-LDEQ Groundwater Corrective Action Settlement Agreement dated December 8, 1989, Attachment A, and the Hazardous and Solid Waste Amendments (HSWA) provisions required by the post-closure permit for the EPD hazardous waste landfill. The assessment work plans included existing sites, the SWMU's listed in the previous UCC post-closure permit, and any additional suspected area of concern (AOC).

LDEQ approved the *Settlement Agreement Work Plan* in January 1992. USEPA approved the *RFI Work Plan* in March of 1991. The *Draft RFI Report* was submitted to both LDEQ and USEPA in July 1992. USEPA issued a *Draft RFI Report Notice of Deficiency (NOD)* on April 7, 1994. UCC provided a response to the NODs on July 1, 1994.

The *Hydrogeologic Assessment Phase Report*, which was submitted in May 1992, was approved by the LDEQ - Groundwater Protection Division (GWPD) on April 27, 1993. A *Groundwater Evaluation and Site Prioritization Report* was prepared and submitted to the GWPD on November 3, 1993. This report, which applied a health-based risk prioritization plan to the 37 known SWMU/AOC sites from high to low priority, was approved by LDEQ on March 20, 1995. UCC met with LDEQ-GWPD and the Hazardous Waste Division (HWD) on March 17, 1998, to review the current status of the high-priority sites for the Taft Facility remediation program, and to present proposals for the Burn Pit and Olefins I Area. The *St. Charles Operations Facility-Wide Investigation Work Plan, Sampling and Analysis Plan, Data Management Plan and Health and Safety Plan* were submitted to LDEQ on October 22, 2003. These generic, facility-wide standard operating procedures were prepared as templates for site-specific work. An *Initial Exposure Assessment and Conceptual Site Model* was submitted to LDEQ on May 7, 2004. This document summarized the hydrogeologic and exposure settings based on existing information as an initial step in the facility-wide RECAP assessment process. An additional goal of the assessment was to aid the identification of preliminary data and knowledge gaps in relation to the hydrogeologic and exposure settings at the facility.

Additional site investigation activities or remedial action activities at the identified SWMU/AOC sites and sites yet to be identified will be conducted under the terms of the December 1989 Settlement Agreement and the conditions of the EPD Landfill Post Closure Permit.

The Settlement Agreement

- Settlement Agreement GWO-89-001 for this site was finalized in December 1989.
- Under the Settlement Agreement, the *Plant-Wide Subsurface Workplan* was prepared that included an inventory of areas of concern and a hydrogeologic assessment. The work proposed was intended to evaluate the extent of subsurface contamination and

determine migration pathways, as well as to develop corrective action feasibility studies and establish long-term monitoring where appropriate.

- In 1993, the *Settlement Site Prioritization Report* was completed which included comprehensive soil and groundwater sampling results, presented toxicological data and a discussion of risk, and established calculated statistical indicators and toxicity scores for each area of the site.
- The *Settlement Site Prioritization Report* identified seven high-priority sites out of the 37 total sites within the facility.
    1. Olefins I Unit
    2. No. 1 Complex South Skimmer
    3. EPD Burn Pit
    4. Grit Chamber/EPD Primary Area
    5. EPD Residue Tank Farm
    6. Acrylics II Unit
    7. Tank Car Loading Rack #4

Comparison of Activities to Settlement Agreement

Settlement Facility-Wide Work Plan	Status
Inventory of Areas of Concern	On-going through Strategic Planning and Pre-Construction Assessments (i.e., Package Boilers) 59 Sites Identified, 46 Require Further Action
Hydrogeologic Assessment	Groundwater Classification Completed in 2005
Evaluate Extent of Subsurface Impact	On-going through RECAP Evaluations
Corrective Action	Performed on some sites in the past, additional Site(s) Proposed in 2007
Groundwater Monitoring	On-going (Semi-Annual and Annual Monitoring Events)

Settlement Agreement in the RECAP Framework

- Sites are added to the Settlement Agreement if constituent concentrations are detected at levels exceeding the RECAP Screening Standards.
- Sites are removed from the Settlement Agreement when the LDEQ determines that No Further Action – At This Time is required.
- No action is required at sites where constituent concentrations are detected at levels LESS than the RECAP Screening Standards. These sites receive a determination of No Further Interest from LDEQ.

A listing of all the SWMU's/AOC's for the UCC site is provided in Table 1. Summary of Corrective Action Activities. The table provides a description of each SWMU/AOC, the status of corrective action activities, and the corrective action provided or to be provided.

Status of Annual Groundwater Sampling – Remediation Operation and Maintenance Sites, February 2007

Acetylene Holder

- PCB Aroclor 1260 was detected in LA1-MW-5 at 0.00253 mg/L, above RECAP SS but below MO-1.
- LA-MW-5 is considered to be a "source" well. PCBs have not been detected in groundwater from this well since 1996 (0.002 mg/L).
- Site will undergo RECAP Evaluation in 2007.

Burn Pit

- During sampling, MW-28B began to effervesce. FID readings escalated, sampling was temporarily ceased, and the well was eventually sampled. P&A has been requested for this well after the RECAP Assessment/CA is completed.
- All wells were VOC-free except MW-28B and MW-BP-1.
- VOCs were generally lower in 2006 than 2005.
- Benzene was detected in the groundwater sample from well MW-BP-1, the first occurrence of benzene in this well since VOC monitoring began in 1993.
- SVOC concentrations were generally unchanged.
- Site will undergo RECAP evaluation, and possible corrective action, in 2007.

Acrylics II

- Comparison of analytical data collected during the May 2006 sampling event to data collected in 2005 shows both slight increases and decreases of constituents, but overall the concentrations continue along a declining trend curve over time.

Waste Transfer Ditch

- Total VOC concentrations have decreased in the two wells (WTD-5 and WTD-10) that had detectable concentrations of VOCs in 2005.
- There were detectable concentrations of VOCs in WTD-6, though none detected in 2005.
- The SVOC 2-methylnaphthalene was detected in WTD -5, though no SVOCs were detected during the 2005 sampling event.
- A full RECAP evaluation will be conducted in 2007.

Detection Monitoring Semiannual Groundwater Sampling – Environmental Operations Sites

- Wells MW-25, MW-26, and MW-29 were redeveloped prior to sampling to improve groundwater data quality and production.

- Redevelopment was successful at MW-25 and MW-26. MW-29, however still contained eight feet of silt, and screen damage was suspected.
- P&A was requested from LDEQ for MW-29 in a work plan dated June 20, 2007.

Closed RCRA EPD Landfill

- No VOCs were detected during the latest sampling effort, October 2006.
- Statistical evaluation of the site analytical data indicates no impact to the subsurface.
- Specific Conductivity values from upgradient wells MW-25 and MW-26 slightly exceeded the upper tolerance limit for background during the latest sampling effort.
- This site will continue to be monitored under the facility's Post-Closure Permit.

WWTF (4) Basins in Delay of Closure

- During the latest sampling event, October 2006, field measured pH values for upgradient well MW-26 and downgradient well MW-27 showed a slight statistically significant exceedance over the historical values.
- Statistical analysis of the data does not indicate any statistically significant changes of indicator parameters TOC, TOX, or specific conductance within any of the wells.
- These basins will continue to be monitored under the facility's Delay of Closure status.

WWTF Aer-Stab (2) Basins ABT Variance

- Groundwater flow in the immediate vicinity of the Aer-Stab Basins during the October 2006 sampling event appears to be in a more easterly direction than during previous sampling events. Continued monitoring of water levels is expected to indicate whether this is a permanent change in flow direction.
- Statistical analyses of data collected did not indicate statistically significant changes of any indicator parameters in the Aer-Stab monitoring wells.
- This site will continue to be monitored under the facility's Aggressive Biological Treatment Variance for the two aerated stabilization basins.

Facility Wide RECAP Site Investigation and Evaluation, 2006

- Completed semiannual potentiometric surveys in April and October, 2006.
- Refined and updated the facility-wide database.
- Performed Preliminary RECAP Assessments on 6 sites.
- Submitted three Site Investigation Work Plans/Preliminary RECAP Evaluations
- Conducted MNA and PAH sampling on select wells.
- Performed Preliminary Remedial Alternative Analysis for the Acetylene Holder.

Site Investigation Workplans

Former Acetylene Holder (Site 1)

Background

- The Acetylene Holder operated from 1967 to May 1987 to store acetylene gas.

- The site consisted of a floating-roof acetylene gas holding tank, a compressor station, flash arresters, and associated piping.
- Until 1971, oils containing PCBs were used at the facility's compressor station and flash arrester.
- During cleaning and servicing operations of the compressor station in the late 1960s and early 1970s, these oils spilled onto the ground surface.
- After shutdown, the acetylene holder was removed; however, the circular concrete foundation was left intact.
- Soil and groundwater at the site were impacted by PCBs from the spilled oil.
- Annual sampling of monitoring wells at the site is conducted as part of ROM Monitoring.
- A Corrective Measure Study was developed which included proposals for a soil cap and vegetative cover.
- A preliminary RECAP evaluation was performed in 2006.
- Currently, a Remedial Alternatives Analysis is being prepared.
- Additional groundwater sampling for MNA indicator parameters and PAHs was conducted in the uppermost confined groundwater zone in 2006.

- The *Site Investigation Work Plan, Former Acetylene Holder (Site 1),* dated August 18, 2006, was conditionally approved by LDEQ on April 2, 2007. The site will undergo RECAP Evaluation in 2007.

Former Burn Pit (Site 20)

Background

- The Burn Pit was a shallow, unlined, impounded area (roughly oriented north-south) with two dividing berms (east-west) cutting the depression into three pits.
- These pits were used to contain and burn organic liquids and debris from 1967 to 1972.
- According to a December 12, 1984, UCC internal memorandum, residues and waste materials either dumped or burned in the pits in the late 1960s and early 1970s included methoxy triglycol residues, contaminated glyoxal, dripolene, quench oil, 1,2-dichloroethane residues, paracetic acid derivative residues (caprolactone, EP-8, EPO), acetic acid residues, tetraethylene glycol residues, C-9s, and miscellaneous buggy flushes from distribution.
- Both soil and groundwater investigations have been conducted and some remedial activities have been performed; however, NAPL remains at the site.
- Exceedances of criteria have been noted in soil and in groundwater.
- A preliminary MO-2 RECAP Evaluation has been performed for the site.
- A Membrane Interface Probe (MIP) Survey and Pilot/Bench Scale Studies are currently underway.
- A Remedial Alternatives Analysis and Corrective Action Planning are currently underway.

Proposed shallow soil sampling:

- Preliminary delineation of the shallow soil AOI is proposed.
- The number of deep soil borings and soil sampling locations will be chosen based on the results of the MIP survey and consultation with LDEQ (see below).

MIP survey

- Continuous *in-situ* total VOC and SVOC screening for vertical characterization was conducted using MIP technology.
- Soil and groundwater samples were not collected during the MIP survey; instead, the MIP survey results will be used to guide DPT soil and groundwater sampling.

Proposed groundwater sampling in the Shallow Unconfined Zone (SUZ)

- Preliminary delineation for shallow groundwater AOI at Site 20 is proposed.
- Confirmatory samples will be collected from existing sampling locations to confirm horizontal delineation of the groundwater AOI to the east and west.
- Groundwater sampling of mostly existing piezometers is proposed.

Proposed groundwater sampling in the UCZ

- Preliminary delineation for deep groundwater AOI at Site 20 is proposed.

- The *Site Investigation Work Plan, Former Burn Pit (Site 20),* dated August 18, 2006, was conditionally approved by LDEQ on April 2, 2007. The site will undergo RECAP Evaluation in 2007, and possible corrective action.

<u>Building 1312 (Site 10)</u>

Background

- Building 1312, constructed in the early 1990s, encompasses approximately 1,100 square feet and is currently used as a lunch room and office building.
- Prior to construction of the building, Site 10 was used as an open, undeveloped parking area and occasional laydown yard for the UCC Maintenance Department.
- No known sources of impact have been identified for the site.
- Two hand auger borings were completed in 1989 near the Number 1 Complex Sand Blast Area for a Pre-Construction Groundwater Assessment. The borings were installed to a depth of six feet bgs and a groundwater sample was collected from each boring for laboratory analysis of VOCs. A letter report was prepared.
- On August 1, 1989, the letter was forwarded internally within UCC with a fax cover letter stating that, "The GC/MS analysis showed no detectable contamination. Thus, construction of the building and associated foundation should not have an adverse impact on ground water quality."
- Additional documentation pertaining to the site, including laboratory results, is not available.
- No work has been conducted at the site since the preliminary investigation conducted in 1989.

- The *Site Investigation Work Plan, Building 1312 (Site 10),* dated September 25, 2006, was conditionally approved by LDEQ on May 30, 2007. The site will undergo RECAP Evaluation in 2007.

Old Fire Training Pit (Site 34)

Background

- The Old Fire Training Pit consisted of three compartments in an east/west orientation.
- Historical aerial photographs of the Taft Facility indicate that the easternmost pit existed as early as January of 1967. This pit, which was reportedly approximately 12 inches deep, was used for small extinguisher training on gasoline-fueled fires.
- The central pit, the largest of the three compartments, is visible in historical aerial photographs beginning in October 1969. The central pit, which was approximately 18 inches deep, was used as a training facility for "protein foam" extinguishing of diesel and chemical fires fueled by chemicals from the "hydrocarbons unit."
- The use of the westernmost pit, which appears in historical aerial photographs after 1969, cannot be ascertained.
- In all of the pits, the training process consisted of filling the pits with water, pouring the fuel into the pit, igniting the fuel, and extinguishing the fire. Use of the pits was terminated in 1971 and the pits were backfilled with onsite backfill material in 1974.
- Two soil borings completed as part of a prior Pre-Construction Assessment indicated site related compounds were present is shallow soils at concentrations that exceeded criteria.
- Analysis of soil samples collected from additional borings completed using field screening techniques did not indicate contamination was present at those locations.

- The *Site Investigation Work Plan, Old Fire Training Pit (Site 34),* dated September 25, 2006, is under review by LDEQ. The site will undergo RECAP Evaluation in 2007.

Truck Scale (Site 50)

Background

- The site appears as part of the Settlement Agreement.
- Environmental samples were likely to have been collected in support of constructing the truck scale; however, no report or analytical data can be located at this time.
- No known source area exists for the site.

- The *Site Investigation Work Plan, Truck Scale (Site 50),* dated September 28, 2006, was conditionally approved by LDEQ on June 11, 2007. The site will undergo RECAP Evaluation in 2007.

Air Liquide (Site 6)

Background

- Union Carbide Corporation operated an air separations unit to produce industrial gases on this portion of the facility. Air Liquide currently operates the site.
- The Air Liquide site occupies approximately 5.4 acres in the northwest portion of the Taft plant.
- Previous soil sampling at the site yielded non-detect results that were higher than the preliminary MO-1 RS in shallow soil.
- No detected constituents were found to exceed the preliminary Limiting MO-1 RS in groundwater samples collected at the site.

- The *Site Investigation Work Plan, Air Liquide (Site 6),* dated September 28, 2006, is under review by LDEQ. The site will undergo RECAP Evaluation in 2007.

Peracetic Acid Derivative Quench Tank (Site 14)

Background

A groundwater investigation was conducted as part of the requirements for a groundwater certification on July 21, 2000. Two borings were hand-augered to six ft-bls in the area of the proposed construction, and soil samples were composited from the two to four ft-bls interval. Groundwater samples were also collected from the two borings, and all samples were analyzed for volatile and semi-volatile compounds. The groundwater sample from one of the borings had a result of 0.0268 mg/L bis (2-ethylhexyl) phthalate. Although this concentration exceeded the GWSS, bis (2-ethylhexyl) phthalate is a common laboratory artifact, and it was concluded that groundwater meets the GWSS. The two composited soil samples had results below the limiting soil SS.

As the July 21, 2000 investigation, including soil sampling and analysis, was not conducted in accordance with RECAP Appendix B requirements, the August 18, 2006 LDEQ correspondence requested an additional soil boring sampled for the site COCs in soil. The results of the October 11, 2006 soil investigation indicated that the soil samples had results below the limiting soil SS.

Based on the limited information submitted, the Department does not intend to respond further regarding the DAP Quench Tank Area, Site 14, and a No Further Interest Determination letter was provided April 30, 2007.

EPD Surge/Equalization Tanks Expansion (Site 22)

Background

A groundwater investigation was conducted as part of the requirements for a groundwater certification on January 2, 1991. Seven borings were drilled to six and seven ft-bls – six in the area of the proposed construction, and one west of the Main Cooling Water Return Lateral (AB-7). Groundwater samples were collected and analyzed for volatile and semi-

volatile compounds. The sample from AB-6 had a result of 13 ug/L di-n-butyl phthalate, a common laboratory artifact. The sample from AB-7, west of the EPD Tank Expansion Area and not included in this determination, had a result of 6 ug/L benzene.

The investigation was not conducted in accordance with RECAP, Appendix B. No soil samples were collected from the borings for analysis of site COC's. Based on the limited information submitted, the Department does not intend to respond further regarding EPD Surge/Equalization Tanks Expansion, Site 22, and a No Further Interest Determination letter was provided on March 14, 2007.

Preliminary Alternatives Analysis - Acetylene Holder

Background

- A Corrective Action Plan was submitted to the LDEQ for review and approval on March 15, 1995.
- A Risk Based Remedy Selection report submitted in 1996 concluded that the PCB-impacted soil and groundwater at the site was being reduced through natural biological activity, and that the impact represented no risk to the public and only minimal risk to site workers.
- To further reduce or eliminate risk to site workers, the plan proposed to:
  - ☑ Cover the site with a 3-inch minimum soil cap and vegetative cover.
  - ☑ Fence the site and control access to the area for sampling and grass cutting only.
  - ☑ Monitor the site annually until constituent levels agreed upon between UCC and LDEQ are met.
- The 1996 plan used 25 mg/kg as soil cleanup target level. The current RECAP MO-1 RS for PCBs, however, is 0.9 mg/kg.
- A preliminary 95% UCL calculation was completed using the existing data set from historical sampling efforts, but the results were not helpful due to high soil concentrations.

Other alternatives considered:

- Do nothing – this alternative is not considered protective.
- On-site stabilization.
- Phytoremediation/bioremediation – PCBs have very strong absorption to soil so phytoremediation or bio remediation are not likely to be effective.
- Thermal desorption or soil washing – these alternatives are likely to be too expensive.
- Reductive dechlorination by nanoscale zero-valent iron – this alternative holds promise, but the technology is in the experimental stages of development and may not be cost effective at this time.
- Hot spot removal of soil – this may be the most cost effective long-term solution. This alternative would or could involve:
  - ☑ Excavation of soils exceeding RECAP,
  - ☑ Treatment and either transport and disposal of treated soils at a permitted facility or place them back on-site.

☑ Possibly permitting a Corrective Action Management Unit (CAMU) at the facility – this approach proved successful at Dow Plaquemine (700 Rail Yard and Lighthouse Road), which was the State's first permitted CAMU.

Planned Tasks

- Continued Corrective Action Planning at the remaining UCC/Dow Priority Sites identified in the Settlement Prioritization Report.
- Preliminary Corrective Action activities at the Former Burn Pit (Site 20; see above).
- Semiannual Potentiometric Monitoring and reporting.
- Cooperative revisions of the Facility-Wide Remediation Strategy.
- Continued facility-wide database management.
- Finalization and submittal of RECAP Work Plans and Evaluations for review and approval by LDEQ.

TABLE 1. SUMMARY OF CORRECTIVE ACTION ACTIVITIES*

AOC or SWMU Number/Area Name	*AOC/SWMU Description*	*Status of CA Activity*	*Corrective Action*
Acetylene Holder Facility (Site 1)	Priority Site - The Acetylene Holder operated from 1967 to May 1987 to store acetylene gas	The SI Work Plan dated August 18, 2006, was conditionally approved by LDEQ on April 2, 2007.	See Discussion Above - Preliminary Alternatives Analysis - Acetylene Holder Facility
Acrylics I Area – Unit Site Assessment, Acrylics Acid Expansion Pre-Construction (Site 2)	Former groundwater certification investigation site	SI Work Plan to be created	TBD
Acrylics II (Site 3)	The Site is located in the south-central portion of the Taft Facility. The Acrylics II Unit was constructed in 1969 and consists of two reactors and recovery and refining equipment. Light and heavy esters are produced at this unit. Byproducts and unreacted alcohols and acid are recovered. The Acrylics II Unit has a clay gravity feed process sewer system that runs throughout the unit. The sewer collects wastewater and washdown water from the unit process area and	Annual groundwater monitoring and reporting	Remediation recovery system operating

AOC or SWMU Number/Area Name	*AOC/SWMU Description*	*Status of CA Activity*	*Corrective Action*
	easternmost tank farm. The sewer discharges into a sump located approximately 80 feet southwest of the process area where the wastewater is pumped to the UCC wastewater treatment facility.		
Acrylics II Unit Tank Farm (Site 4)	Former groundwater certification investigation site	SI Work Plan to be created	TBD
Acrylics Unit Skimmer Basin (Site 5)	The Acrylics Unit Skimmer Basin is located in the south central area of the Taft Facility. The Acrylics Skimmer is comprised of steel sheetpile on the sides and an earthen bottom. The Acrylics Skimmer has been in operation since 1973 and occupies an area of approximately 30 feet by 15 feet by 8 feet deep. The Acrylics Skimmer is where stormwater from the acrylics process area is routed prior to flowing into the No. 3 Complex Stormwater Pond. The Acrylics Skimmer contains an underflow weir to collect floating organics.	SI Work Plan to be created	TBD
Air Liquide (Site 6)	Air Liquide occupies approximately 5.4 acres in the northwestern corner of the Taft Facility. The Site, which was constructed from 1991 through 1992, is owned by UCC and operated by Air Liquide to produce industrial grade gases that are used in the manufacturing processes at Dow's Taft Facility.	The SI Work Plan dated November 28, 2006, is under review by LDEQ.	TBD
Alkyl Amines II/Glyoxal Unit(Site 7)	Former groundwater certification investigation site	SI Work Plan to be submitted to LDEQ in 2007.	TBD
AP-2 Spent Pyro Area (Site 8)	Former groundwater certification investigation site	NFI	None
Brine Tank Site (Site 9)	Adjacent to the Olefins I Unit on the east side	SI Work Plan to be submitted to LDEQ in 2007.	TBD
Building 1312 Area (Site 10)	Former groundwater certification investigation site	The SI Work Plan dated September 25, 2006 was	TBD

AOC or SWMU Number/Area Name	*AOC/SWMU Description*	*Status of CA Activity*	*Corrective Action*
		conditionally approved by LDEQ on May 30, 2007.	
Butanol 2 Expansion (Site 11)	Former groundwater certification investigation site	NFI	None
Cogen (Site 12)	Former groundwater certification investigation site	NFI	None
Customer "B" Project – WIG (Site 13)	Former groundwater certification investigation site	NFI	None
Peracetic Acid Derivative (DAP) Quench Tank (Site 14)	Former groundwater certification investigation site	No Further Interest (NFI) Determination Provided By LDEQ on April 30, 2007.	None
Distribution Tanks 1118, 1119, 2108, & 2109 (Site 15)	Former groundwater certification investigation site	NFI	None
East Landfill – Includes Alternative Incinerator Location (Site 16)	The East Landfill is located in the southeastern portion of the Taft Facility. The East Landfill site was a former laydown yard for railroad maintenance operations located to the west of the site. Railroad ties were often stored temporarily on the site until used. In addition, the site was used for fill deposition. Fill materials included both silica and sand-blast materials produced by activities facility-wide.	The SI Work Plan dated June 18, 2006, is under review by LDEQ.	TBD
East-West Piperack (Site 17)	Former groundwater certification investigation site	NFI	None
EDC Tank Distribution Tank Farm – Cathodic Protection (Site 18)	Former groundwater certification investigation site; Site 18, the EDC Distribution Tank Farm is located in the northeastern portion of the Taft Facility, bounded to the east by the Main Cooling Water Return Lateral and to the south by the Number 2 Cooling Water Return Lateral. The 69-acre site contains 70 aboveground storage tanks.	SI Work Plan to be submitted to LDEQ in 2007.	TBD
EPD 3 Primary	The EPD Grit Chamber is located in	SI Work Plan in	TBD

AOC or SWMU Number/Area Name	*AOC/SWMU Description*	*Status of CA Activity*	*Corrective Action*
Wastewater Treatment Plant (WWTP) Grit Chamber (Site 19)	the east central portion of the Taft Facility, adjoined by the Dow Mississippi River Main Cooling Water Return Lateral to the east, the No. 2 Cooling Water Return Lateral to the north and the Primary Pre-treatment Basins to the south. Initial construction at Site 19 began in 1965. The Waste Transfer Ditch, which has historically transected Site 19, was installed in 1969. Wastes treated in the grit chamber include sludge that is vacuumed out of process units throughout the facility (primarily the clarifiers within Site 19) and material collected during spill responses.	progress; to be submitted to LDEQ in 2007.	
EPD Burn Pit (Site 20)	The former Burn Pit is located in the southeastern portion of the Taft Facility in the Energy and Environmental Organization (EEO) unit. The unit originally measured approximately 120 feet by 40 feet by 3 feet deep. This site was used to contain and burn organic liquids and debris from 1967 through 1972.	The SI Work Plan dated August 18, 2006, was conditionally approved by LDEQ on April 2, 2007.	TBD
EPD Residue Tank Farm (Site 21)	The EPD-RTF is located in the east central portion of the Taft Plant, adjoined by the wastewater treatment facility secondary clarifiers and the UNOX battery of tanks to the north; the Ground Burner Area and a new Residue Tank Farm to the south; the former EPD hazardous waste landfill to the east; and open space to the west. The EPD-RTF was comprised of two lined diked areas containing three tanks each that ranged in capacity from 4,000 to 30,000 gallons. The tank farm stored liquid wastes generated in the EPD wastewater treatment plant from 1969 through 1989. Impact was	SI Work Plan in progress; to be submitted to LDEQ in 2007.	TBD

AOC or SWMU Number/Area Name	*AOC/SWMU Description*	*Status of CA Activity*	*Corrective Action*
	initially discovered during a 1991 RFI. The site was closed under LDEQ in 1996 and incorporated into the settlement agreement.		
EPD Surge/Equalization Tanks Expansion (Site 22)	Former groundwater certification investigation site. Historically, the site was an undeveloped grass field and farmland with no known sources of impact. The site is currently developed with two, 2.5-million gallon tanks serving as surge and equalization tanks for the UCC waste water treatment facility.	No Further Interest (NFI) Determination Provided By LDEQ on March 14, 2007.	None
Ethoxylates Park Project (Site 23)	The Ethoxylates Park Project is located in the central area of the Taft Facility east of the Administrative area and west of the Oxides process units. Before construction activities, the area was predominately open and was used as a laydown yard; an open building with no slab was used to store catalyst and insulation.	MO-1 RECAP in progress	TBD
Ethylene Recovery (Site 24)	Former groundwater certification investigation site	NFI	None
Ethylenamines II (Site 25)	Former groundwater certification investigation site	NFI	None
Former Salvage Yard (Site 26)	Former groundwater certification investigation site	SI Work Plan to be submitted to LDEQ in 2007.	TBD
Ground Burner Area – Includes EPD Proposed Incinerator Pre-Construction Project (Site 27)	The Ground Burner is located in the east central portion of the Taft Plant within the EPD Primary Wastewater Treatment Area, adjoined by the former EPD hazardous waste landfill to the east and the former EPD-Residue Tank Farm to the north. The site was formerly developed with an industrial waste solids burner, an industrial liquid waste ground burner, and a drum storage area. In 1989 through 1991 the site was investigated for a proposed incinerator to replace the	SI Work Plan in progress; to be submitted to LDEQ in 2007.	TBD

AOC or SWMU Number/Area Name	*AOC/SWMU Description*	*Status of CA Activity*	*Corrective Action*
	burners. The incinerator was never constructed, but the burners were closed in 1997 in accordance with LDEQ and Site 27 was incorporated into the settlement agreement.		
Latex Plant (Site 28)	Former groundwater certification investigation site	NFI	None
Monitoring Well P & A Sampling Activity (Site 29)	Twelve monitoring wells in the Taft Plant EPD Area (MW-1 through MW-6, MW-10, and MW-17 through MW-21) were identified for decommissioning. Monitor wells MW-1 through MW-6 and MW-10 are located in the EPD area around the Waste Treatment Lagoons. Monitor wells MW-17 through MW-21 are located in the former Acrolein Landfarm Unit.	The SI Work Plan dated June 18, 2006, is under review by LDEQ.	TBD
Naphtha Tank 3100 (Site 30)	Former groundwater certification investigation site	SI Work Plan to be submitted to LDEQ in 2007.	TBD
Naphtha Tank 5101 (Site 31)	The Naphtha Tank 5101 is located on the north side of the plant, approximately 200 feet from Highway 18. The tank has been used continuously for the storage of naphtha since its construction in 1973. The current area of interest (AOI) is contained within the bermed tank area and encompasses an area of approximately 0.3 acres immediately south of the tank.	SI Work Plan in progress; to be submitted to LDEQ in 2007.	TBD
No. 1 Complex South Skimmer , and Ethyleneamines I – Includes Glycol Piperack Spill Area (Site 32)	The No. 1 Complex South Skimmer is located near the center of the Taft Facility. The skimmer was constructed from 1967 to 1969 to trap NAPL that inadvertently entered the storm sewer The storm sewer serviced the former Benzene Unit and Ethyleneamines I Unit located north of the skimmer. In addition, from 1966 through 1977, overflow from the Olefins I Unit Skimmer also discharged into the	SI Work Plan in progress; to be submitted to LDEQ in 2007.	TBD

AOC or SWMU Number/Area Name	*AOC/SWMU Description*	*Status of CA Activity*	*Corrective Action*
	No. 1 Complex South Skimmer.		
No. 1 TTR (Site 33)	Tank truck loading/unloading racks is located in the central portion of the UCC facility. The rack has a concrete pad below that either slope to a process sewer drain or is curbed and drain to a process sewer. The primary concern would be spills resulting from the tank truck loading/unloading processes contaminating shallow groundwater.	SI Work Plan in progress; to be submitted to LDEQ in 2007.	TBD
Old Fire Training Pit (Site 34)	The Old Fire Training Pit is located in the central and eastern portion of the Taft Facility near the area of the EPD Waste Water Treatment Facilities and the Equalization Basin. The Fire Training Pit was operational between 1969 and 1971. This site was used as a training facility for extinguishing diesel and chemical fires using chemicals from the hydrocarbon unit. Use of the Fire Training Pit reportedly ceased in 1971, but the pits remained open until 1974 when the pits were backfilled with on-site backfill material.	The SI Work Plan dated September 25, 2006, is under review by LDEQ.	TBD
Olefins I - Includes Olefins Wastewater (Site 35)	The Olefins I Unit is located in the central northern area of the Taft Facility and is comprised of the Dripolene Area and Quench Tar Pit. The Olefins I Unit was in operation from May 1967 through January 1980; operations were restarted in 1989. The Olefins process involves the cracking of raw petroleum derivatives into unsaturated olefins, primarily ethylene and propylene. Compounds that are produced as by-products include hydrogen, methane, acetylene, butadiene, and dripolene.	SI Work Plan in progress; to be submitted to LDEQ in 2007.	TBD
Olefins II (Site 36)	The Olefins II Process Unit is located in the north central area of	SI Work Plan in progress; to be	TBD

AOC or SWMU Number/Area Name	*AOC/SWMU Description*	*Status of CA Activity*	*Corrective Action*
	the Taft Facility. The Olefins II Process Unit began operations in 1979 and consists of two process areas. These processes consists of furnace cracking naphtha, ethane, and propane to produce ethylene, propylene, acetylene, butadiene, hydrogen, and pyrolysis fuel oils.	submitted to LDEQ in 2007.	
Oxide I (Ethylene Oxide I) – Includes HEC-18, CONEX Pre-Construction Assessment Area, Oxide I External Condenser Project (Site 37)	Former groundwater certification investigation site	A request for NFA-ATT is in progress.	None
Peracetic Acid Basin (Site 38)	The Peracetic Acid Basin (PA Dump Pit) is located in the south-central area of the Taft Facility. The PA Dump Pit has been in operation since 1965 and is comprised of a brick lined concrete room with natural gas fired pilots. In order to avoid unit failure, uncontrollable reactions in the Peracetic Acid Process Unit are "dumped" in the PA Dump Pit.	SI Work Plan in progress; to be submitted to LDEQ in 2007.	TBD
Proposed Dripolene Pipeline (Site 39)	Former groundwater certification investigation site	NFI	None
South Landfill (Site 40)	The South Landfill was a disposal area for various industrial plant wastes and debris. The South Landfill has been in operation since 1966, but was closed to industrial solid waste in 1981. The approximate landfill dimensions are 500 feet by 300 feet by 2 feet deep, or an volume of approximately 11,000 cubic yards.	The SI Work Plan dated March 6, 2007, was conditionally approved by LDEQ on June 14, 2007.	TBD
Specialty Product Unit (Site 41)	Former groundwater certification investigation site	NFI	None
Star Liquid Polyethylene 6 (LP6) (Site 42)	Former groundwater certification investigation site	SI Work Plan to be submitted to LDEQ in 2007.	TBD

AOC or SWMU Number/Area Name	*AOC/SWMU Description*	*Status of CA Activity*	*Corrective Action*
Steam Turbine Generator (Site 43)	Former groundwater certification investigation site	NFI	None
T-2106 Methylcellosolve (Site 44)	Former groundwater certification investigation site	A request for NFI/NFA is in progress.	None
Tank 1331 (Site 45)	Former groundwater certification investigation site	A request for NFI/NFA is in progress.	None
TCR 1/TCR 3 – Old Truck Scale Area (Site 46)	Tank car/truck loading/unloading racks located in the central portion of the UCC facility, most of which have concrete pads below them that either slope to a process sewer drain or are curbed and drain to a process sewer. The primary concern would be spills resulting from the tank car/truck loading/unloading processes contaminating shallow groundwater.	A request for NFI/NFA is in progress.	None
TCR 4/No. 3 TTR (Site 47)	Tank car/truck loading/unloading racks located in the south central portion of the UCC facility, most of which have concrete pads below them that either slope to a process sewer drain or are curbed and drain to a process sewer. The primary concern would be spills resulting from the tank car/truck loading/unloading processes contaminating shallow groundwater.	SI Work Plan in progress, to be submitted to LDEQ in 2007.	TBD
TCR 5 (Site 48)	Former groundwater certification investigation site	SI Work Plan to be submitted to LDEQ	TBD
Tetralin Diglycol Area EAI/EOI (Site 49)	The Ethyleneamines I (EAI)/Ethylene Oxides I Unit is located in the north central portion of the Taft Facility. Operations at this site began in 1966. The contamination at this site probably originated from a tetralin spill in 1987 and a diglycol spill in 1988 within the EAI Unit.	SI Work Plan in progress, to be submitted to LDEQ in 2007.	TBD
Truck Scale (Site 50)	Former groundwater certification investigation site	The SI Work Plan dated November	TBD

AOC or SWMU Number/Area Name	*AOC/SWMU Description*	*Status of CA Activity*	*Corrective Action*
		28, 2006, was conditionally approved by LDEQ on June 11, 2007. Response to LDEQ Comments in progress.	
Waste Transfer Ditch (Site 51)	The WTD is located in the southeastern area of the Taft Facility near the Residue Block. It was installed along the northern side of the surface impoundments of the WWTP with discharge along the eastern side to the south. The WTD was closed in the summer of 1989.	Annual groundwater monitoring and reporting of Site. SI Work Plan in progress, to be submitted to LDEQ in 2007.	Passive groundwater collection system in place
1300 Hexene (Site 52)	Site 52, Tank 1300 and its associated berm occupy approximately 1 acre. The tank is located in the east-central portion of SCO within Site 18, approximately 200 feet west of the Main Cooling Water Return Lateral. The 1,676,007 million gallon tank contains hexane.	SI Work Plan in progress, to be submitted to LDEQ in 2007.	TBD
Diene 221 (Site 53)	The Diene 221 tank is located in the No. 3 Distribution Area tank farm which is part of the PXC Distribution Facilities. There are three other tanks located within the same diked area as the Diene 221 tank.	Assessment report in progress; to be submitted to LDEQ in 2007.	TBD
Package Boilers (Site 54)	Former groundwater certification investigation site. New Package Boilers constructed onsite which are utilized to produce high pressure steam.	SI Work Plan in progress, to be submitted to LDEQ in 2007.	TBD
Ethylene Oxide II (Site 56)	Site 56 is located in the north central portion of the UCC plant adjoining the No. 1 Complex South Skimmer and Ethyleneamines I Unit to the west, and the Oxide I Unit to the south.	A request for NFA/NFI is in progress.	None.

AOC or SWMU Number/Area Name	*AOC/SWMU Description*	*Status of CA Activity*	*Corrective Action*
Alternative Incinerator Location II (Site 58)	This is the Storm Water Holding Pond. Semiannual groundwater sampling is being conducted in the vicinity of this site as part of the WWTF permits. No samples were collected at this site for the proposed incinerator.	A request for NFA/NFI is in progress.	None.
No. 3 Stormwater Ditch (Site 59)	This is a stormwater ditch located at the southeastern portion of the facility near the railroad tracks. An assessment for drainage improvements was conducted at this site in order to determine how to handle any spoils.	This site will be evaluated under RECAP to determine if it meets the requirements for NFI.	None.

[1] TBD - "To Be Determined"– The need for corrective action will be determined subsequent to the completion of the CAS Investigation Workplan and the Administrative Authority's approval of the RECAP Report

SETTLEMENT AGREEMENT

STATE OF LOUISIANA

DEPARTMENT OF ENVIRONMENTAL QUALITY

IN THE MATTER OF:	
UNION CARBIDE CHEMICALS & PLASTICS COMPANY, INC POST OFFICE BOX 50 HAHNVILLE, LOUISIANA 70057	DOCKET NUMBER: CWO-89-001

SETTLEMENT AGREEMENT

The State of Louisiana, by and through the Department of Environmental Quality (the "Department") and Union Carbide Chemicals & Plastics Company, Inc., Taft Plant ("Union Carbide"), by their duly authorized signatures hereto hereby enter into this Settlement Agreement.

WHEREAS, the Department issued a Groundwater Corrective Action Order, Docket Number CWO-89-001 (the "Order"), to Union Carbide alleging that: 1) the operation of Union Carbide's industrial facilities at Hahnville, Louisiana has resulted in the subsurface migration of manufacturing materials which are hazardous constituents in violation of La. R.S. 30:2076; and 2) that Union Carbide should conduct subsurface investigations at Solid Waste Management Units for releases of hazardous waste constituents to groundwater pursuant to the Hazardous and Solid Waste Amendments of 1984, 42 U.S.C. Section 6924;

WHEREAS, Union Carbide denies the validity of the

Department's allegations set forth in the Order and denies liability arising from the claims therein; and

WHEREAS, the Department has previously approved voluntary assessment and corrective action plans submitted by Union Carbide to address subsurface contamination of certain substances at the following locations:

1. Waste Transfer Ditch
2. MW-28 Area (Burning Pit)
3. Olefins I Process Unit
   a. Quench Tar Pit
   b. Dripolene Area
4. Olefins II
5. Acetylene Holder Facility
6. No. 1 Complex South Skimmer
7. *Tetralin Spill Area
8. *Diglycol Area
9. Grit Chamber Area (EPD Primary).
10. Acrylics I Unit
11. Acrylics II Unit

* = Being assessed as one area.

WHEREAS, Union Carbide has previously undertaken a voluntary investigation of releases or potential releases of hazardous wastes and/or hazardous constituents at its facilities and has reported the results of such investigations to the Department; and

WHEREAS, the Department desires to organize all previous, ongoing, and future investigations and/or corrective

actions involving subsurface contamination by hazardous waste or hazardous constituents into one document for ease of review and information management; and

WHEREAS the Department and Union Carbide wish to settle all claims and controversies arising out of this action;

NOW THEREFORE, the Department and Union Carbide agree as follows:

I.

Union Carbide agrees to undertake the activities specified in the Agreed Schedule of Activities contained in Attachment A hereto, in accordance with the schedule outlined in Attachment A.

II.

The Department and Union Carbide agree that the previously approved assessment and corrective action plans referenced above shall be incorporated into the Agreed Schedule of Activities contained in Attachment A, and shall be implemented by Union Carbide without modification except that any deadlines established pursuant to this Settlement Agreement shall govern all assessments and corrective actions undertaken pursuant to this Agreement.

III.

Individual site assessment plans for new discoveries of contamination found during the plantwide investigation will not be required; however, Union Carbide agrees to include said discoveries in the scope of the plantwide investigation. Notification of new discoveries will be in accordance with law.

IV

The Department agrees to use its best efforts to encourage the U.S. Environmental Protection Agency to include the terms of this Agreement and Schedule A in the HSWA portion of the final RCRA permit to be issued to Union Carbide.

V

Union Carbide will perform the activities called for in this Settlement Agreement within the time limits and within the manner specified, unless the performance is prevented or delayed by circumstances which constitute a force majeure. For purposes of this Settlement Agreement, a force majeure is any circumstance including weather, acts of God, and other circumstances arising from causes beyond Union Carbide's reasonable control despite Union Carbide's due diligence and good faith efforts. In the event of a force majeure, the time for performance of the activity delayed by the force majeure shall be extended for the time period of the delay attributable to the force majeure. The time for performance for any activity dependent on the delayed activity shall be similarly extended.

VI.

Union Carbide will notify the Department in writing as soon as reasonably possible but no later than fifteen (15) days after it becomes aware of a circumstance which may delay or prevent (or has delayed or prevented) performance of an obligation. The notice shall state the cause and anticipated length of the delay, the measures taken by Union Carbide to

prevent or minimize delay, and the timetable by which those measures have been or will be taken.

VII.

All submissions and notices required by this Settlement Agreement shall be sent to:

Department of Environmental Quality
Administrator, Groundwater Protection Division
Post Office Box 44091
Baton Rouge, Louisiana 70804

Union Carbide Chemicals & Plastics Company, Inc.
W.T. Gray, Plant Manager
Post Office Box 50
Hahnville, Louisiana 70057

VIII.

Upon completion of the activities required in this Settlement Agreement, Union Carbide shall submit a final progress report to the Department representing that such measures have been completed in full satisfaction of the requirements of this Settlement Agreement. The Department shall review this report and any such work performed, as may be necessary, within sixty (60) days of the receipt of such report. If the Department does not advise Union Carbide in writing of any dispute concerning the completeness of the work performed within such a sixty (60) day period, it shall be deemed to have determined that such work has been completed in full satisfaction of this Settlement Agreement.

IX.

If in the opinion of any party there is a dispute with respect to the meaning or implementation of this Settlement Agreement, that party shall send a written notice to the other

parties which outlines the nature of the dispute. Any such dispute shall in the first instance be the subject of informal negotiations between the parties. That period of informal negotiations shall not extend beyond thirty (30) days from the date when the notice was sent unless the parties agree otherwise, in writing.

If informal negotiations are unsuccessful, the Department's position shall control unless Union Carbide files with the Secretary of the Department a petition which shall request an adjudicatory hearing pursuant to La. R.S. 30:2024(A), describe the nature of the dispute, and include a proposal for its resolution. Union Carbide's petition must be filed no more than forty-five (45) days after the date of the initial notice of the dispute. The Department shall then have twenty (20) days to respond to the petition. The Secretary shall promptly set the matter for hearing in accordance with the Louisiana Environmental Quality Act. Any deadlines dependent upon the final determination of an issue subject to such adjudicatory hearing shall be extended during the pendency of the litigation.

X.

This Settlement Agreement shall not constitute evidence of an admission or adjudication with respect to any allegation of the Order or any fact or conclusion of the law with respect to any matter alleged in or arising out of the Order.

XI.

This Settlement Agreement may be amended by mutual consent of the Parties. Such amendments shall be in writing and shall have as their effective date the date on which they are signed by the Department.

XII.

Within thirty (30) days after signature, the Department shall announce the availability of this Settlement Agreement to the public for review and comment. The Department shall accept comments from the public for review and comment for a period of thirty (30) days after such announcement. At the end of the comment period. the Department shall review all such comments and shall either:

(a) determine that the Settlement Agreement should be made effective in its present form, in which case, Union Carbide shall be notified in writing; or

(b) determine that modification of the Agreement is necessary, in which case Union Carbide will be informed as to the nature of all required changes. If Union Carbide agrees to the modifications, the Agreement shall be so modified;

(c) in the event that Union Carbide is unwilling to agree on the modifications requested by the State as a result of public comment, this Settlement Agreement may be withdrawn by the State. In such event, the State reserves all rights to take actions as it deems necessary, and Union Carbide reserves all rights to contest such actions.

This Settlement Agreement is effective upon the date of receipt of the notice in subparagraph (a) if the Agreement is not modified, or upon the date Union Carbide agrees to any modifications, as evidenced by the signature of an authorized representative to the modified Agreement.

XIII.

The provisions of this Settlement Agreement shall apply to and be binding upon the parties to this action, their officers, directors, employees, successors, assigns, and all persons, firms, entities and corporations in active concert with them. The undersigned representative of each party to this Settlement Agreement certifies that he or she is fully authorized by the party whom he or she represents to enter into the terms and conditions of this Settlement Agreement to execute and to legally bind that party to it.

LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY

BY: Maureen O'Neill
MAUREEN O'NEILL
Assistant Secretary
Office of Water Resources

DATE: 12/8/89

UNION CARBIDE CHEMICALS & PLASTICS COMPANY, INC.

BY: W. T. Gray
W. T. Gray, Jr.

TITLE: Teft Plant Manager

DATE: 11/15/89

ATTACHMENT A

AGREED SCHEDULE OF ACTIVITIES

I

Union Carbide will submit to the Department, within ninety (90) days after the effective date of the Settlement Agreement, a workplan for review, comment and approval by the Department for a plant wide subsurface investigation (as defined below) which will incorporate ongoing assessments and corrective actions with respect to subsurface contamination by hazardous wastes or hazardous waste constituents within the active or inactive developed areas of the site.

II.

After Union Carbide submits the Workplan, the Department will either approve or disapprove the plan. If the Department approves the plan, Union Carbide shall initiate the implementation of the plan within thirty (30) days of receipt of final approval.

In the event of disapproval (in whole or in part) of the plan, the Department shall specify any deficiencies in writing. Union Carbide shall modify the plan to correct these within sixty (60) days of receipt of the disapproval by the Department, unless Union Carbide takes exception to all or part of the disapproval, in which case Union Carbide shall submit a written statement of the grounds for the exception within fifteen (15) days of receipt of the disapproval by the Department. If the Department does not notify Union Carbide of

its agreement with Union Carbide's reasons within fifteen (15) days after receipt of Union Carbide's statement, then the dispute resolution provisions of Paragraph IX of the Settlement Agreement shall apply.

III.

The Workplan shall provide for sufficient investigations to identify subsurface releases of hazardous waste or hazardous waste constitutents. The Workplan will include four (4) phases:

1. Inventory Phase

Designed to outline known and suspected areas of concern including but not limited to sewers, sumps, skimmers, process loading/unloading areas and areas defined as Solid Waste Management Units under HSWA (1984). Union Carbide will specifically include the East Landfill, the South Landfill, the Primary Solids Settling Basin, and the EPD Tank Farm. Inventory will also include records of sites investigated under UCC's present policy of investigating areas of new construction for possibility of adverse impact on ground water quality.

This effort will be conducted primarily by use of historical aerial photography of the plant site and by reviews of existing unit and/or engineering records or personnel interviews on an as-needed basis.

2. Hydrogeologic Assessment Phase

Designed to organize existing geologic and hydrogeologic data into usable formats such as geologic cross-sections, isopachs, etc. to be used in planning strategy for field investigation and to develop a basic ground water computer model for use in the evaluation stage.

3. Evaluation Phase.

Comprised of several parts designed to assess the extent of subsurface contamination at the plant site through ground water modeling and field investigation. This phase will define the manner in which the vertical and horizontal limits of hazardous waste or hazardous waste constituents (hereinafter collectively called "contaminants") are migrating and the horizontal and vertical limits thereof. Ground water quality shall be verified and monitored by a permanent plantwide monitoring system. This phase shall address: dissolved and immiscible layers of contamination, direction and rate of ground water flow, direction and rate of contaminant movement, the concentrations of individual compounds, the prediction of future contaminant movement, soil types (including filled areas where contaminants may collect), surface drainage patterns, and subsurface drains with permeable backfill.

4. Corrective Action

Based on the results of Phase 3, a feasibility study or studies will be conducted to arrive at an appropriate corrective action for identified sites. Nonaqueous phase organic liquids shall be mitigated during corrective action as required by law. Feasibility studies shall consider source mitigation in discussions of corrective action alternatives Existing facilities such as former trenches or chemical drains for fluid removal or on-site treatment/disposal facilities may be utilized consistent with applicable permits, rules, regulations, and/or orders.

IV.

The workplan shall include provisions for the development of a plat (labeled diagram) identifying sources of past and potential groundwater contamination from hazardous wastes or hazardous waste constituents and define the boundaries of the plant wide subsurface investigation.

V.

The workplan shall also provide for oversight of the plant assessment by a certified ground water professional experienced in these matters to ensure quality control and quality assurance.

VI.

The Workplan will contain general guidelines for corrective action plan or plans. For each release that the

Department determines to pose a threat to human health or the environment, a feasibility study will be conducted. Each feasibility study will evaluate potential remedial alternatives on the basis of human health, protection of the environment, and applicable technology. Provisions will be made for conducting a risk assessment to determine final cleanup levels.

If the Department determines the need for corrective measures to address releases that pose a threat to human health or the environment based on information from the inventory, assessment, and evaluation, and for which Union Carbide has not proposed a feasibility study, the Department will notify Union Carbide, in writing, that a feasibility study is required. In such event, Union Carbide will notify the Department of its intent to conduct a feasibility study within fifteen (15) days of receipt of the notification that a feasibility study will be required. If Union Carbide disagrees with the Department's conclusion that a feasibility study is required, then such disputes concerning the requirement of a feasibility study shall be resolved in accordance with Paragraph IX of the Settlement agreement. Any disputes concerning the requirements for corrective action and/or selection of a remedy shall be resolved in accordance with Paragraph IX of the Settlement Agreement.

VII.

The Workplan will include provisions for:

- Monitoring each contaminant plume and establishing the compliance points, defined as a vertical plane outlined by permanent monitoring wells located just outside the horizontal

extent of contamination in each contaminated permeable stratum and including the next lower permeable clean stratum, except in the event that there is no next lower permeable stratum within a reasonable distance, then soil samples must be collected to a depth below the contaminated permeable stratum at which analysis indicates that there is no chemical contamination.

- Sampling frequency, sampling parameters, sampling protocol, and analytical procedures consistent with EPA Method SW-846, or an equivalent method acceptable to the Department.

- Monitoring plans for each corrective action that will demonstrate the effectiveness of the remediation. Volumes of contaminants and total fluids recovered shall be tabulated with flow meters. Sampling of recovery mechanisms and assessment wells shall be of sufficient frequency to track concentration trends over defined periods of time and draw down and/or plume movement must be verified.

- Monitoring wells, recovery mechanisms, and piezometers must be constructed of materials compatible with their chemical environment and must be sealed so that surface water infiltration is prohibited and hydraulic communication between permeable strata is eliminated. These systems must be maintained so that the functional integrity is not compromised. Necessary repairs must be instituted in a timely fashion. Down time on recovery pumps shall be minimized. Contaminated fluids transfer conduits must not leak outside of secondary containment. All systems shall be inspected weekly for integrity. Inspections shall be documented in a field log.

- The Workplan will also specify target dates for the submission of interim reports on major project activities.

An annual progress report shall be submitted to the Department, which shall describe all actions accomplished during the previous year under the Workplan and propose additional actions needed such as installation of new wells, abandonment of existing wells, permitting needs, meetings, and workplan revision.

ATTACHMENT 1

ATTACHMENT 1
LIST OF FACILITY DOCUMENTS INCORPORATED IN THE PERMIT BY REFERENCE
LAD041581422-PC-RN-1
AI#2083

DOCUMENT TYPE	APPLICATION /DOCUMENT DATE	ELECTRONIC DATABASE MANAGEMENT SYSTEM (EDMS) DOCUMENT ID	COMMENTS
Post-Closure cost estimates	34657411	09/25/2006	Post-Closure Permit Renewal Application, Appendix C, Pages 440 of the EDMS document
Post-Closure Plan	34657411	09/25/2006	Post-Closure Permit Renewal Application, Appendix C, Pages 416-443 of the EDMS document
Sampling and Analysis Plan (Soil and Groundwater)	34657411	09/25/2006	Post-Closure Permit Renewal Application, Appendix A, Pages 401-407 of EDMS document 34657411
Inspection Plan	34657411	09/25/2006	Post-Closure Permit Renewal Application, Appendix B, Pages 408-415 of the EDMS document
Contingency Plan	34657411	09/25/2006	Post-Closure Permit Renewal Application, Appendix E, Pages 450-461 of the EDMS document
Groundwater Statistical Evaluation Plan	34657411	09/25/2006	Post-Closure Permit Renewal Application, Appendix A, Page 6 of the EDMS document

RESPONSIVENESS SUMMARY

RESPONSIVENESS SUMMARY
UNION CARBIDE CORPORATION
LAD 041 581 422
AGENCY INTEREST # 2083
HAHNVILLE, LOUISIANA

A Public Comment period on the Draft Post-Closure Permit (Permit number LAD041581422-PC-RN-1) for the Closed EPD Landfill ran from July 26, 2007 to September 12, 2007. During this time, no comments on the Draft Permit were submitted to the LDEQ.